

# The Commercial Car Journal

VOLUME XXXIII

PHILADELPHIA, JULY 20, 1927

NUMBER 5

## The Second Half Looks GOOD

*Continued Activity of General Business Provides Sound Basis for Confidence in the Remaining Months of the Year*

By Donald Blanchard

DEFINITE improvement in the time payment situation and retail sales and profits for the first half of 1927 comparing favorably with the corresponding period of last year, are indicated by a nation-wide survey conducted by COMMERCIAL CAR JOURNAL in which 170 truck dealers, distributors and factory branches participated.

Paralleling this excellent showing by the trade is the accomplishment of the manufacturing end of the industry with a six months' total for factory sales of about 268,000 trucks and buses, a new all-time record for the first half of the year.

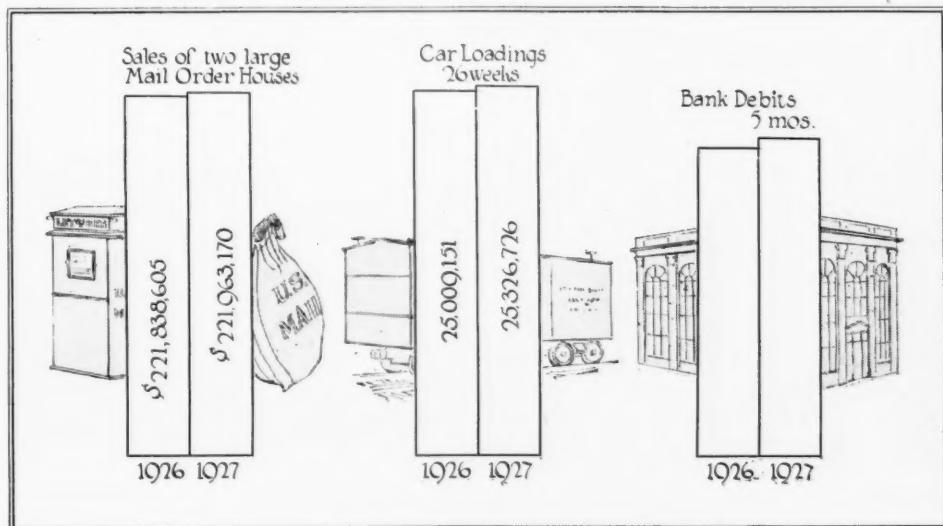
What the remaining months of the year hold for the truck industry is, of course, the focal point of current interest. On this point, there is a widespread feeling of confidence that truck business will maintain satisfactory levels during the last six months of 1927. The fact that the consensus of opinion among competent observers of economic trends is conservatively optimistic, provides a sound basis for this feeling inasmuch as the fortunes of the truck industry are largely determined by the trend of business in general.

One of the

outstanding developments of the last six months is the general tendency to tighten up on time payment sales. The generally more rigid credit requirements now in force are placing the business on a sounder basis and, while their effect may be temporarily to restrict volume, they have exactly the opposite effect on profits which, after all, are what count.

Loose extension of credit to time purchasers had a serious effect on last year's profits and it is reassuring to note that policies adopted to reform this phase of the business, are being applied effectively. In the COMMERCIAL CAR JOURNAL survey, 168 reports on the time payment situation were received and of these 127, or roughly 75 per cent, state that the tendency during the last year has been to tighten up on credits of this character. That this is a general tendency and not peculiar to any particular section is indicated by the accompanying tabulation of the replies received in the survey.

From the standpoint of the manufacturer particularly, another outstanding development of the first half has been the large increases in export sales. On the basis of available figures it seems probable now that foreign shipments for



Three indicators of business volume—mail order sales, revenue freight car loadings and bank debits—all show gains over last year

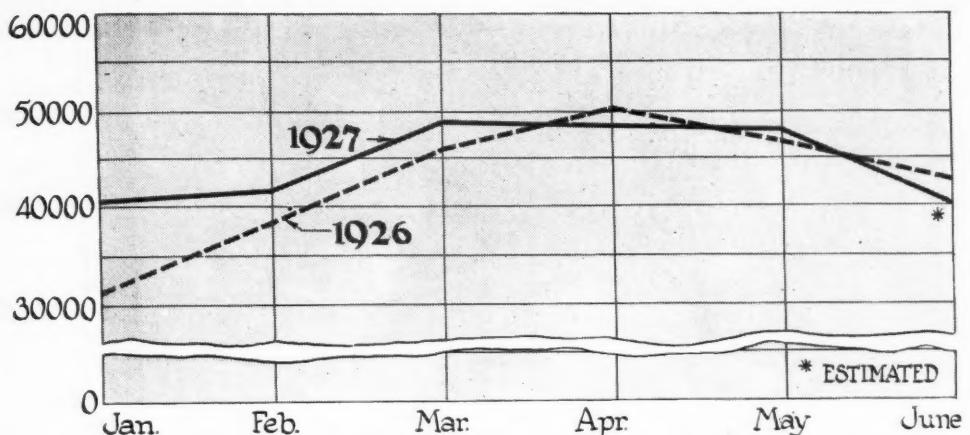


Chart showing how 1927 monthly production of trucks in the United States and Canada compares with last year

the six months ending June 30 will amount to about 57,000 vehicles as compared with 35,671 in the same period of 1926. This is an increase of about 60 per cent. Inasmuch as foreign sales help to iron out the inequalities in domestic demand and thus to stabilize production this gain in truck exports is of considerable significance.

Handling the used truck seems to present the trade with about the same difficulties as a year ago and it appears probable that this phase of truck merchandising will continue to require the most skillful management for some time to come. The survey indicates that there has been little or no change in the situation during the last year, as 51 state that there has been an improvement, 57 report that conditions are worse, while 60 estimate conditions to be the same. However, the survey reports give evidence that the trade has the situation in hand, as is indicated by its first-half showing of net profits.

#### Net Profits Better

Of the 170 truck merchants reporting on their net earnings, 79 have made increased profits during the first half as compared with the corresponding period in 1926. Smaller earnings are reported by 53, while 38 place their profits equal to last year. In other words, 69 per cent report that their earnings this year are ahead or equal to last year's first half showing.

This showing is particularly significant in view of the fact that retail sales of new trucks in the United States probably were slightly behind the first half of 1926. It indicates that volume is not the one sure route to profits as much can be accomplished to improve earnings by controlling the time payment and used truck situations.

While actual sales probably are somewhat less than last year, the survey reports, as shown in the accompanying tabulation, give a contrary indication as 86 report larger sales, 28 the same volume and 56 a smaller turnover. Other statistical evidence, however, does not bear out the survey on this point.

We are accustomed to talk in terms of total production figures but these do not give a correct estimate of the number of vehicles being sold in the domestic market. To get a true picture of the situation, both Canadian output and U. S. exports must be deducted as has been done in the following table:

	First Six Months	
	1926	1927
Total truck production .....	257,630	267,684*
Less Canadian production and U. S. exports .....	57,842	78,984*
Available for sale in the United States.....	199,788	188,700

\* June estimated. Production means factory sales.

The decrease shown by the table is not large and probably was to be expected in view of the tendency to place time payment sales on a sounder basis. At the time credit policies were revised, it was recognized that volume would suffer temporarily but it was expected that net profits would be affected favorably. The survey indicates that as far as the trade is concerned, this expectation is being fulfilled quite generally. What the immediate effect has been on manufacturing profits is impossible to determine as there is no

comprehensive information on this point. In the long run there is no question but that the results will be favorable.

Reasonably complete figures covering actual retail truck sales as indicated by registrations of new trucks are available only for the first four months of the year. These figures tend to support the conclusion drawn from Table I. The distribution of sales between the various makes has undergone considerable change in some cases, with a number of the moderate and smaller-sized producers showing up especially well.

Ford's production during the first six months appears to have dropped off considerably in comparison with last year. Up to June 1, his output probably was about 25 per cent behind last year and represented approximately one-third of the industry's total, as compared with 42 per cent of the 1926 total and in some preceding years considerably over 50 per cent. Whether the introduction of his new passenger car model will have any effect on his truck program is impossible to predict as no announcement concerning this point has been forthcoming.

This year's record output is due entirely to gains in the production of trucks rated at  $2\frac{1}{2}$  tons and under as the output of the larger sizes and of bus chassis is running behind last year. The increased output of the lighter vehicles is of particular interest in view of the slump in Ford operations.

Turning now to general economic conditions to which truck sales are so closely related, the outlook appears favorable. Probably the number of records broken will not be so large this year as last but nevertheless busi-



This map explains the zone classification used in the analysis of the survey reports opposite

ness activity undoubtedly will maintain a relatively high level. The truck industry may prove to be one of the exceptions to the rule, however, for if the pace set during the first six months of the year is maintained, total output of trucks in 1927 will reach the 500,000 mark, an increase of nearly 9,000 over last year's record production.

Despite the uncertainty regarding the immediate future that prevailed at the first of the year, now that the records are in it is evident that business has been proceeding at a substantial rate. Revenue freight car loadings which reflect the national demand for transportation, totaled 25,326,726 for the first half year, a gain of about one per cent over the same period in 1926. Indicative of the high rate of consumption prevailing during recent months is the fact that the sales of two large mail order houses amounted to \$221,963,170 for the half year, a slight gain over last year, which was considered unusually prosperous. Another indicator of business volume is debits to individual bank accounts which for the five months ending May 31, 1927, are about three per cent ahead of the same period in 1926. Money continues to be easy. Building operations, which provide a large truck market, are being carried on in large volume and show no evidence of any real recession.

Prices have tended downward for some time but the recent upward swings in agricultural prices have tended to stabilize the indexes. The higher price levels being reached by farm commodities will tend, of course, to increase rural purchasing power which reacts naturally to the advantage of industry. This favorable influence, however, is offset to some extent by unfavorable crop reports from some sections.

As to industrial employment, a survey made by the National Association of Manufacturers covering 2203 companies, reveals the fact that industry now is operating at a high level and will continue to do so for the next three months at least. From this survey it is estimated that employment is at 81 per cent of maximum employment capacity. The Department of Labor indexes bear this survey out and its figures for May indicate

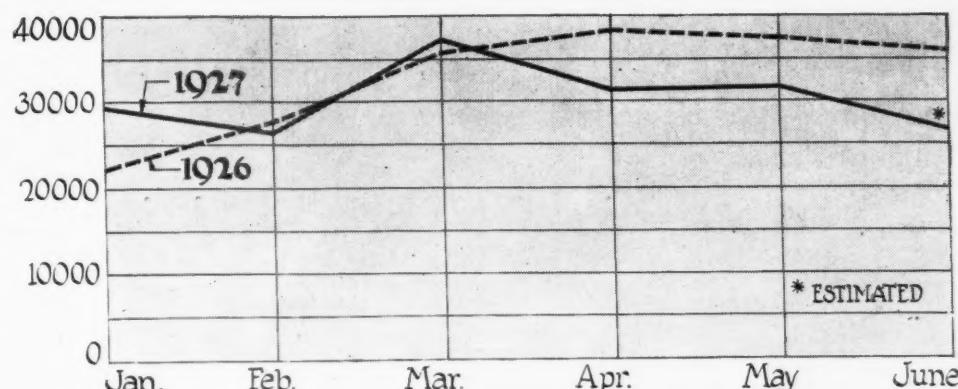


Chart showing 1927 and 1926 first half net monthly production after deduction of exports and Canadian output

that per capita earnings actually increased in May although the number employed was about one per cent less than a year ago.

On the outlook for the second half of the year, the National Bank of Commerce says: "Business is in the midst of one of those moderate and orderly readjustments by which production and consumption have been kept closely in balance for the last five years. Activity is not so great as it was at this time in 1926, and the first half of 1927 has not equaled the high records which were being established last year. But this is a reason for confidence rather than pessimism, for it is by precisely this sort of orderly readjustment in previous years that stability has been so successfully maintained.

"As a matter of fact, the volume of business done has probably exceeded what was really anticipated at the beginning of the year. Particularly in view of such untoward events as the Mississippi floods, generally unseasonable weather and the bituminous coal strike, the persistently sustained flow of goods through production into consumer's hands reveals a thoroughly sound position. The present outlook is for a good and moderately expanding rate of business activity during the second half year."

On current business conditions, the same authority says: "That the reasonable activity of the first half of the year will continue in the second half seems well indicated by the position of the great producing industries. The steel industry has operated at a very good rate, and output for the first half of 1927 will fall only slightly below the record figure of a year ago. Current curtail-

(Turn to page 22, please)

### TABULATION OF SURVEY REPLIES

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9	Total	U. S.
How do your truck sales for the first half of 1927 compare with the first half of 1926?	Larger	5	18	8	14	9	8	8	5	11	86
	Same	1	7	3	7	4	1	4	1	..	28
	Smaller	4	12	3	11	7	5	4	1	9	56
How do your net profits on truck sales during the first half of 1927 compare with first half of 1926?	Larger	6	15	6	14	9	7	8	3	11	79
	Same	1	12	3	10	3	2	4	2	1	38
	Smaller	3	10	5	8	8	5	4	2	8	53
Has there been any improvement in the used truck situation?	Better	..	10	2	10	5	7	6	3	8	51
	Same	8	13	6	13	6	3	3	1	7	60
	Worse	2	13	6	8	9	4	7	3	5	57
Has there been any tendency to tighten up on time sales in your territory during the past year?	Yes	7	25	10	27	14	11	12	5	16	127
	No	3	11	4	5	6	3	4	2	3	41

# 150 Detroit Garages Sell

## Definite Scale of Commissions Paid to Garageman on Sales Made to Prospects Furnished by Them

THE constant application of aggressive methods of disposing of used trucks taken in trade has enabled the Federal-Detroit branch to hold its used truck inventory down to a reasonable figure at all times during the past year or so and to keep trading regularly, thus securing the largest possible volume of new truck sales.

The Federal-Detroit branch sells a lot of new trucks. But the management places emphasis on the used truck department, because unless the used trucks taken in trade are kept moving, the used truck inventory will soon become so large as to necessitate shutting down on trading, and new truck sales will suffer. As it is, the Federal-Detroit branch operates on the assumption that every sale of a new truck will involve taking a used truck in trade and makes its plans accordingly. These plans have resulted in the sale of an average of almost one used truck a day the year around and have made it unnecessary for the new truck department to let up on trading at any time since they were introduced.

Several features of this used truck department are worthy of consideration. Chief among these are the appraisal and reconditioning of used trucks, the methods of getting prospects, the methods of selling, and the plan of remunerating salesmen.

There is an adage to the effect that goods bought right are half sold, and the Federal-Detroit branch makes every effort to buy used trucks right. To this end it employs an appraiser, who works under the direction of the used truck manager, and undertakes

to buy every used truck at a price that will enable it to break at least even on the transaction, including the overhead of the used truck department.

"When a new truck salesman finds that his prospect has something to trade," L. E. Craig, used truck manager explained, "negotiations practically cease right there until we get a reliable report on what his used truck will bring on the local market. Our appraiser goes out and makes a thorough inspection and reports its actual value, then we set a price we know it will bring. Every used truck has to be appraised on its own merits; there is no such thing as a blue book value, such as there is for used cars, because so much depends on the work in which the

GARAGE PROSPECT REPORT		
Name of Garage	Owner	
Address	Tel. No.	
Date	192	Date Contract Signed
Is Owner interested?		
Will he furnish prospect information?		
How does he conduct his business?		
Will he be active?		
Did you sign him up on contract?		
Did you leave copy of bulletin?		
REMARKS:		
SALESMAN		

SALESMAN'S FOLLOW-UP REPORT	
Prospect	Date
Address	City
Interviewed Mr.	
Remarks	
Date to be called on again	
Saleman	

**PROSPECT INFORMATION**

Name	Date
Address	
Interview Mr.	
Remarks	
Name of Party who gave Information	
For Saleman	
Date Allotted	

SALESMAN'S FIRST REPORT	
Prospect	Date
Address	City
Buyer	Phone
Model Wanted	Business
Trade in	Body Type
Buying When?	Immediately
	30 Days
	60 Days
	90 Days
	If Later When
Must be Seen Again When?	
Favors What Make of Truck?	
Present Equipment (See Other Side)	
Salesman	

Various forms used by Federal-Detroit in connection with new and used truck sales

# Used Trucks for Federal



L. E. Craig,  
used truck manager,  
Federal-Detroit

truck has been engaged and the care that has been taken of it. We buy them right, because we know we've got to sell them. The new truck salesman knows something about this too, for in order to make the 'Star Club,' he has to sell \$7,500 worth of used trucks a year, besides selling a certain volume of new ones.

"We recondition every used truck that is at all worth it, and we repaint practically all of them. That makes the selling job easier. A \$30 paint job is worth \$100 when it comes to selling a used truck."

Having bought a used truck right and reconditioned it, the next problem is to find a prospective buyer. This the Federal-Detroit branch does in the usual ways, such as following up owners and advertising, and by securing the cooperation of garagemen and others who are in position to come in contact with such prospects. The branch has lined up about 150 of the leading garages of the city and entered into a formal contract with them whereby they are to report all prospects for new and used trucks for a stated commission on all sales made within 30 days to such prospects; provided, of course, the prospect has not already been listed. The commission varies from \$5 on a unit that sells for \$50 to \$100, to \$50 on one that sells for \$4,000 to \$5,000.

All the garageman has to do is call the used truck

MEMO AGREEMENT—GARAGE OWNERS	
(I) (We) _____	
do hereby promise to inform the market for a new or used truck or other vehicle offered for sale by Federal Motor Truck Company (Detroit Branch), such notification to be by telephone or written report as Federal Motor Truck Company may require.	
In consideration of above prospect information, should Federal Motor Truck Company effect sale of a new or used truck or other vehicle as a result of prospect information received from above person or persons, then the Federal Motor Truck Company will pay _____ a premium as follows:	
Units from	\$ 50.00 to \$ 100.00..... \$ 5.00
Units from	100.00 to 300.00..... 10.00
Units from	300.00 to 500.00..... 15.00
Units from	500.00 to 1000.00..... 20.00
Units from	1000.00 to 2000.00..... 25.00
Units from	2000.00 to 2500.00..... 30.00
Units from	2500.00 to 3000.00..... 35.00
Units from	3000.00 to 3500.00..... 40.00
Units from	3500.00 to 4000.00..... 45.00
Units from	4000.00 to 5000.00..... 50.00
It being understood, however, that in the event the prospect is already listed in the Federal Motor Truck Company's prospect files as a prospect by one of Federal Motor Truck Company's salesmen or other agents, that such information shall be considered of no value and that _____ fully understands he (they) will not be entitled to receive payment of any premium for having sent in the information and does hereby waive any and all claim for such information being given to Federal Motor Truck Company.	
It is fully understood and agreeable to both parties hereto that _____ shall be entitled to no premium for prospect information should Federal Motor Truck Company be unable to sell a vehicle to the prospect within a period of Thirty days from date the information is conveyed to Federal Motor Truck Company.	
It is also being fully understood and agreed upon by both parties hereto that _____ has no authority to act as agent, for, or represent the Federal Motor Truck Company in any manner whatsoever and that the purpose and sense of this agreement is only for the furnishing of prospect information to Federal Motor Truck Company for any acceptable information rendered.	
It is further understood and fully agreed upon by both parties, that this memo agreement may be terminated at any time by either party hereto, giving Twenty-four hours notice in writing to the other.	
Federal Motor Truck Company will mail premium check for any premium due, on the 10th of the month following the month in which sale was completed.	
FEDERAL MOTOR TRUCK COMPANY (Detroit Branch)	
Manager _____	
By _____	
Witness: _____	

Agreement entered into between branch and garage by which the latter undertakes to turn in prospects

department on the telephone and give the name and address of the prospect, together with such information as he may have gathered as to the kind of job in which the prospect is interested. A prospect card is then made out, a salesman from the branch immediately calls on the garageman to secure any additional information that may be available, and proceeds to follow up the prospect and make the sale if possible. When the sale is made, the branch sends the garageman a check, which is just that much "velvet" for him.

By way of cooperating with the garagemen, though, the branch sends them a printed list of used trucks on hand, together with selling prices, twice each month, and they are privileged to go over this list with prospects to show them the many excellent values the branch has on hand, and, if possible, select one or more in which the prospect is likely to be interested. The same list is also mailed to about 2500 truck owners.

Publishing such a list places the dealer at something of a disadvantage, however, and to compensate for this, the identity of the trucks listed is concealed and the prices are set for trading purposes. In parenthesis after each listing is a number, but this number is not the same as that which appears on the truck. It is merely for the convenience of the garageman or

(Turn to page 22, please)

# Parts Distributed with Speed and Accuracy

## White Co.'s Plan Described at Service Managers' Forum—Bus Operator Discusses Chassis Design

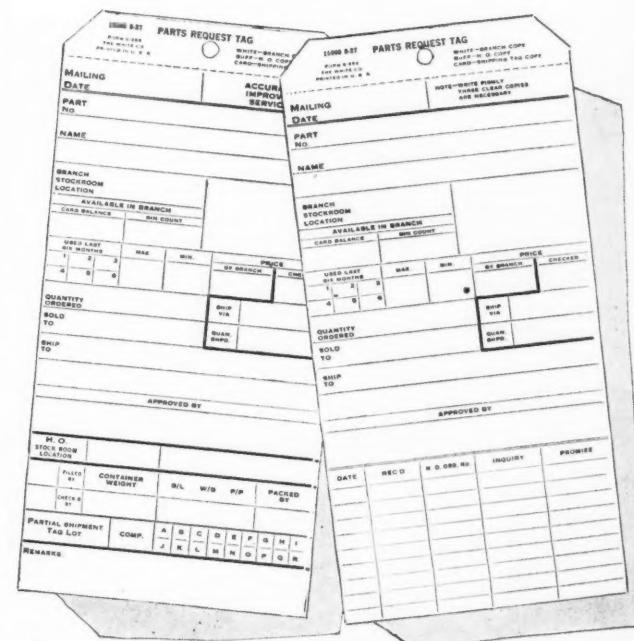
HOW the White Company distributes service parts to its various branches with speed and accuracy was explained by A. H. Prasse, parts service manager, at the recent National Automobile Chamber of Commerce Factory Service Managers' Forum held in Cleveland. Other speakers from the commercial car field at this meeting were O. M. Brede, supervisor of Service General Motors Truck Co., who discussed the increasing importance of service in selling motor vehicles, and Pierre V. C. See, Northern Ohio Power & Light Co., who talked on bus maintenance, discussing incidentally some of the things he thought the manufacturers might do to assist operators.

The White parts distribution plan is built around one form, reproduced herewith, which is numbered serially and filled out in triplicate by the branch originating the order. The first two copies are paper, while the third is cardboard, all tied together with carbon paper interleaved by a metal eyelet. The top copy is removed by the branch and filed awaiting the arrival of the material, while the two remaining copies still fastened together are mailed to the factory. One feature of this card of particular interest is the provision that is made for the insertion of sales of the part ordered for each of the preceding six months which makes it possible for the factory to determine whether the proper quantity is being purchased.

### Sorts Tags by Parts Number

In the factory parts department, the tags are sorted by part number to facilitate posting, those requiring special interpretation being set aside for attention. The sorted tags are then routed through a master reference file and checked for part number and prices, corrections where necessary being made by crossing out the incorrect information to avoid erasure. Next the disbursement entries are made in the stock records and the stockroom location of the part ordered entered on the tag. Making the disbursement entry before removal of the stock from the bins gives a sensitive control over the stock on hand as if the supply is low a partial shipment is indicated so that the order filler will not give out the entire supply. Where a stock shortage develops, the tag is put in a part number file and the branch advised as to the probable shipment date. The production department, of course, is notified in the event of low stock or shortage.

The two copies of the tag, still fastened together, then go to the stockroom where they are sorted by branches as fast as received and made up into truck lots for the order fillers just in advance of their needs. In this way all tags on hand for any branch are filled at the same time. A cycle of branches is completed, however, before another is started in order to insure



Tags used in White's parts distribution plan. The original, at the right, is retained by the branch, the duplicate and triplicate are forwarded to the factory. These are similar except that the triplicate is on a card

equality of service. The bundles of tags given to the order fillers or pickers are sorted roughly as to stockroom location.

The pickers remove the parts from the bins, attach the tag to one piece of the item, place the items in tote pans by branches and deliver them to a two-way conveyor which delivers them to either the express or freight packing room. Express orders are packed at once whereas freight shipments are placed in accumulation bins for packing in economical lots. No orders are held for more than three days, however, and shipments go forward to 90 per cent of the branches daily or oftener.

From the accumulation bins, the packers pull the parts to the packing benches. As each item is placed in the box, the paper copy (second copy) is removed and placed on a clip board. The cardboard copy, still wired to one piece of the item or carton, is enclosed in the box as a combination identification tag and packing record. When packing is complete, the boxes move by conveyor to the shipping room along with the paper copies of the tags which, after the boxes have been weighed and stenciled with the weight, destination and bill of lading number, are forwarded to the office. A packer's check sheet guides the shipping clerk in

(Turn to page 26, please)

# How to Service

## Truck Four-Wheel Brakes

### Part III

#### *Bendix Brakes on G. M. C. T-40 and T-50*

**B**RAKES on the six-cylinder G.M.C. Models T-40 and T-50 trucks are of the Bendix 3-shoe self-energizing type. The service brake works on four wheels and the hand brake on the rear wheels only. The method of adjustment, the construction of parts and the arrangement of the brake operating mechanism are different on G.M.C. trucks than others employing this type of brake the principle of which was explained in the first article of this series appearing in the May issue.

Ordinarily adjustment is made at the central wing nut, 1, shown in Fig. 3 and in Fig. 5. The brake pedal should move two inches before the brakes start to apply. This and other adjustments should be made with the vehicle standing and the brakes cold.

Adjustment of the front wheel brakes will be required after considerable use. The adjusting screw is located forward of and below the front axle as indicated by the arrow in Fig. 4. Wheels should be jacked up and the adjusting screw tightened the same direction as the wheel rotates until the brake starts to drag and then backed off until the wheel turns free again. The lock nut should then be secured. Equalizing of front brakes is accomplished by adjustment of the nuts, 4, in Fig. 3, which are located inside the hood just to the rear of the radiator. These should be tightened or loosened until a slight application of the brakes gives the same drag on each front wheel. Adjustment should be loose rather than tight.

This is the third of a series of three articles concerning adjustment and maintenance of four-wheel brakes. The first, which appeared in the May issue, covered Autocar internal and G. M. C. external types, the second published in the June issue, covered Lockheed internal as used on the Reo Speedwagon Junior.

There is a corresponding adjustment on the rear wheel brakes as indicated at 5 in Fig. 3 but no adjustment is ordinarily required at this point.

Running adjustments are made in this manner until the brake operating levers at the rear, 6 in Fig. 3 and the front as indicated at 4 in Fig. 3, are in a vertical position with the brakes released. This indicates the need of complete readjustment of the brake system.

To make this adjustment jack up all four wheels and loosen wing nut, 1 in Fig. 3 to the end of the threads and loosen bolts in clamps on front brake operating shafts and the clamp bolts on rear brake levers, as shown in Fig. 3 at 8 and 6 respectively. The clamps and shafts are serrated and parts should be driven one way or the other until the serrations are released.

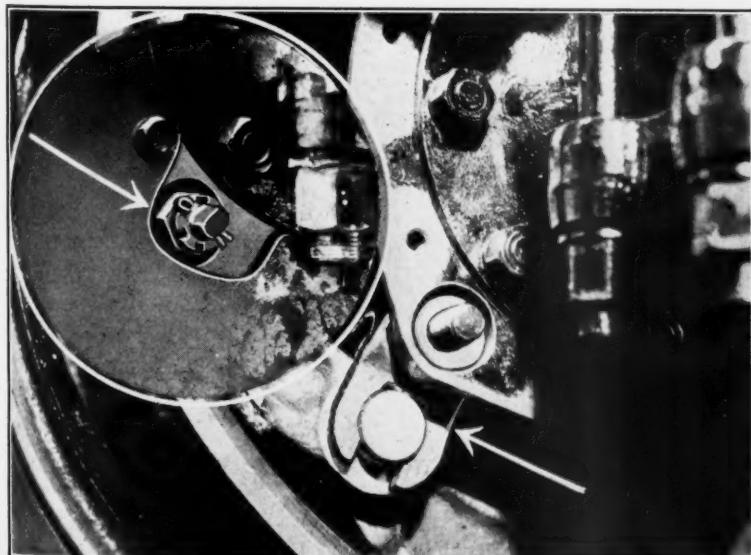


Fig. 1. At left: The take-up keeper bolt has been changed as shown in circle

Fig. 2. Above: View of front wheel brake

Rear brake operating shaft should then be turned with a pipe wrench in the direction to apply the brakes until the brakes start to engage and then released until the wheel turns freely again. The lever should be engaged on the serrations again and should make an angle of approximately 60 degrees to the rear of the vertical line of the brake shaft. Both levers will be placed an equal number of serrations back of original position if this operation has been done correctly. The operation should be repeated on the front brakes by placing the couplings back on the shaft serrations so that the levers make an angle of about 60 degrees forward of the vertical center line of the shafts. The adjustment of the front wheel brakes as explained in preceding paragraphs should be repeated.

The brakes should then be tested for equalization by applying the foot brake lightly and testing each wheel in turn. There should be the same amount of drag right and left at front and right and left at rear. Front brakes are equalized by adjustment of nuts 4, in Fig. 3 and the rear brakes by adjustment of the yokes 5 in the same illustration.

Complete readjustment is required in all cases when new linings have been applied. The throw of the brake cams is sufficient to wear out the lining which is  $\frac{1}{4}$  in. thick, without loss of leverage, and levers and couplings can be reset as directed above until the lining is worn to such an extent that replacement is necessary.

The hand brakes applies the rear brake shoes through the same rods as the pedal and equalization if correct for service application will be correct for hand brake. The only adjustment necessary on the hand brake is that of the yoke indicated at 11 in Fig. 3. The point to watch is that the hand brake when released does not keep the rear wheel brakes partly on. If the adjustment is made so that the lever moves two inches before applying the brakes there will be no trouble in this respect.

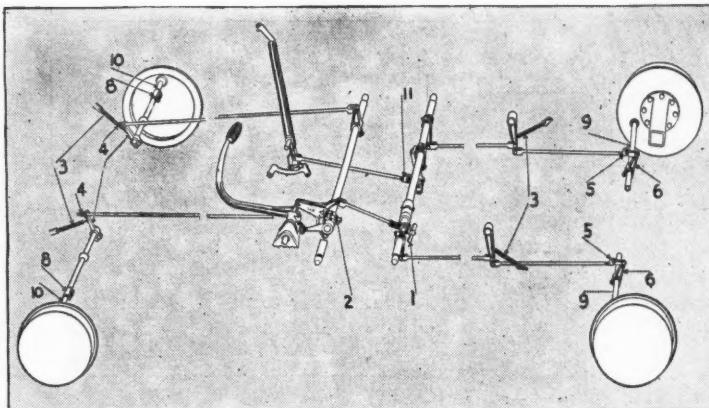


Fig. 3. General arrangement of G. M. C. brake system. Note primary adjustment 1, and equalizing adjustments at 4 and 5

In replacing the front brake shoes care should be taken to see that the end of the shoe is properly placed over the eccentric which is formed on the inner end of the screw shown at arrow in Fig. 4. It is necessary to spring the lower shoe down a bit to slip the shoe in place. If this is not done the front wheel will not go on all the way.

A change has been made in the design of the rear brake shoe take-up keeper bolt as shown in Fig. 1. The

original bolts had a plain threaded end as shown in the center of the illustration and the new style is longer and has a flattened portion to fit a wrench as can be seen in the circle insert. The takeup keeper, which is the forked member, is fastened to the keeper bolt by knurling under the head of the bolt. In case any adjustment of the keeper is required it can be swung a little to one side or the other by loosening the lock nut on the keeper bolt and turning it with a wrench. The correct position can be achieved, by loosening the lock nut and applying the brakes hard and tightening the locknut fully with the brakes still applied.

A double yoke with three holes in one of which is a clevis pin is located under the floor boards just forward of the brake cross shaft. This is not a means of adjusting the brakes and should not be changed when brakes are adjusted or relined.

A check-up of the brake system should be made during the first 500 miles of operation after linings and other parts have worn in somewhat. If the brakes are adjusted and equalized as required at this time no further attention need be given the brakes for some time.

Equal braking effort depends upon equal friction between lining and drums, and the same lining should be used on all four brakes of the same vehicle.

The cooperation of the factory service department and of Mr. M. B. Reeves of the Philadelphia branch and Mr. Henry Hickman factory service representative is acknowledged in the preparation of this article.



Fig. 4. Front wheel adjusting screw is indicated by arrow

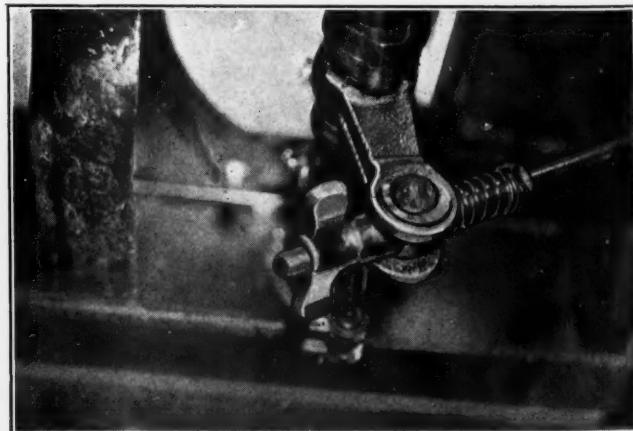


Fig. 5. Central wing nut provides running adjustment

# C. C. J. Shop Ideas

THIS page is designed primarily to help service station repairmen in exacting economies in time, labor and money. Salesmen, however, can also profit by scanning over these practical hints.

Readers have secured many valuable suggestions from the series of ideas published. We want more useful hints and will pay \$5 for each new idea accepted. Give exact dimensions of parts to be made to enable other readers to duplicate the device.

## No. 141. Electrolyte Level Tester

A heavy glass tube makes a handy device for determining level of electrolyte in storage batteries. The tube is lowered in the filler opening until it touches the plates, then the mechanic places his thumb over the end and lifts the tube out. The tube may be ruled on an inch scale or the correct level for the battery in use marked.

Keeping a tube at hand when needed is a difficulty. It may be overcome by mounting the tube on the underside of the cover over the battery space. A pair of clips such as are used for fuses are fastened to the cover. The inside surface of the clip is covered with a strip of surgeon's adhesive tape to better protect the tube.

## No. 142. Clutch Assembly Puller

Ordinary pullers cannot be used on some makes of multiple disk clutches to pull the assembly from the clutch shaft. The plates are too thin to stand the pulling strain. However, a wheel puller can be easily adapted to the job. A hole is drilled in each puller arm near the end. Two bars are made of stock about  $1\frac{1}{2}$  in. by  $\frac{3}{8}$  in. and several inches longer than the diameter of the clutch. Two holes are drilled in each bar. Clevis pins are used to assemble the puller and bars as shown in the drawing. The bars transmit the pulling strain to the end of the assembly without danger of damaging plates. —GMC Service, Phila., Pa.

## No. 143. Front End Engine Support

A section of light channel iron and two wedges may be used to advantage to support the front end of an engine while the timing gear cover is removed for work on front end drive. The truck or bus may be moved about the shop with the support in place, which cannot be done when jacks or chain hoist are employed for this purpose.

## No. 144. Universal Joint Forms Wrench

A universal joint with one yoke removed and its place taken by a bar about 24 in. long saves time when a rear axle pinion nut is to be tightened or removed. The end of the propeller

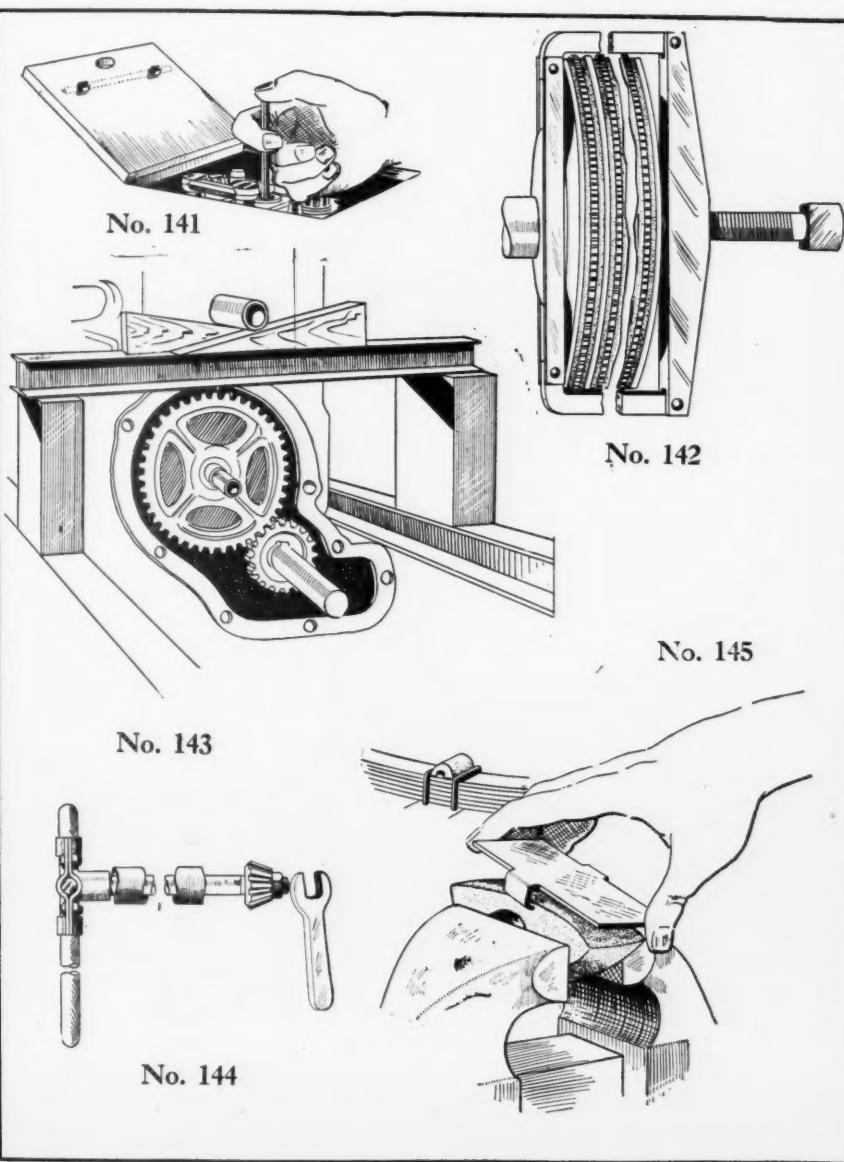
The average buyer today is more conversant with the important details of truck operation and maintenance than ever before. A money-saving idea will often result in a sale.

shaft is difficult to hold, in many cases. The end of the universal joint fits the forward end of the shaft. By taking the ring of the joint apart, the forward yoke can be removed and the bar substituted. The manner of using the device is shown in the drawing.—V. Keedena, Crookston, Minn.

## No. 145. Attaching Spring Bumpers

Rubber bumpers as used on front

springs are difficult to attach to the pressed steel plates which hold them. The plate has a hook on each side which retains the rubber in position. We have found that they can be attached easily by clamping the rubber in a vise and compressing until the plate can be hooked first in one side and then the other as shown in the accompanying illustration. With this method the job takes but a minute to complete.—H. W. C., Theo. C. Ulmer, Ind., Philadelphia, Pa.





G. R. Lott, manager, Diamond T service station, Chicago, and a view of the large and well-lighted service floor



WITH a floor area of 50,000 square feet, the new Diamond-T service station in Chicago is handling the requirements of some 3500 trucks in that territory.

Approximately 65 trucks are handled at one time, with a force of 80 mechanics and helpers. In addition to these men there is a staff of about twenty persons in the offices and inspectors' department.

A notable feature of the establishment is the close contact maintained between the various departments by means of a pneumatic tube system and telephones. Pneumatic tubes convey orders from the inspectors to the credit department for O.K.; requisitions and men's time sheets from the stockroom to the office; order sheets from the foreman's shack to the pits, and every other place where there is need for the interchange of forms.

Inspectors can phone the various stock departments, the magneto repair shop, etc., and obtain immediate information as to the state of a job or the time of its release, and so inform the customer without unnecessary delay.

Between the entrance and the exit is the inspector's office with a drivers' restroom to the right of the entrance. Vehicles coming in for repair are examined here and taken over from the drivers. Before the vehicle reaches the shop the instruction sheet is in the hands of the shop foreman via the pneumatic tube.

Along one wall of the building are arranged the lubricating and engine overhaul pits. These are daylight pits, with a bench on the same level, electric lamps in the walls, plug outlets for drills, etc., and separate drainage.

Two of the pits are the full length of the chassis for lubricating purposes, while the other pits are just long enough to take care of engine operations.

Benches for general overhaul work are arranged down the center of the shop, and the trucks are lined up at

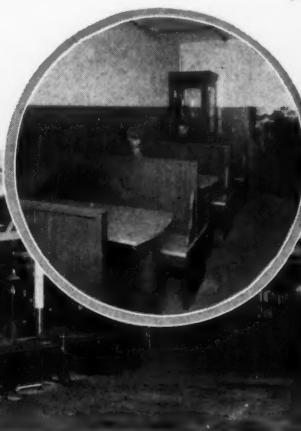
right angles thereto. At one side of the building is the collision section, where seriously damaged vehicles are handled, and along the opposite wall, near the exit is the dead storage and completed jobs.

Along the front of the building, together with the manager's office—the credit office is on the second floor—is the stockroom and parts counter. The 25-foot metal counter has a glass front for display purposes and a separate counter is used for wrapping. All entries, credits and charges are handled in the credit office above, the sales slips being sent through the tube.

Back of the parts store is the toolroom, with two openings into the shop. All oil and grease is issued on requisitions as well as the tools. The tools are stored on special display boards, so that those in use can be noted at a glance.

Separate shops are maintained for engines and transmissions. In common with the rest of the floors, these are daylight shops, and what is equally important, well ventilated. One man is constantly employed in the en-

By making each bench a complete unit speeds up minor repairs. In the circle, a room for drivers



# Building Planned for Service

*Inter-Departmental Pneumatic Tube  
System and Wide Range of Time-  
Saving Equipment Among  
Speed Features of New  
Chicago Diamond T  
Service Station*

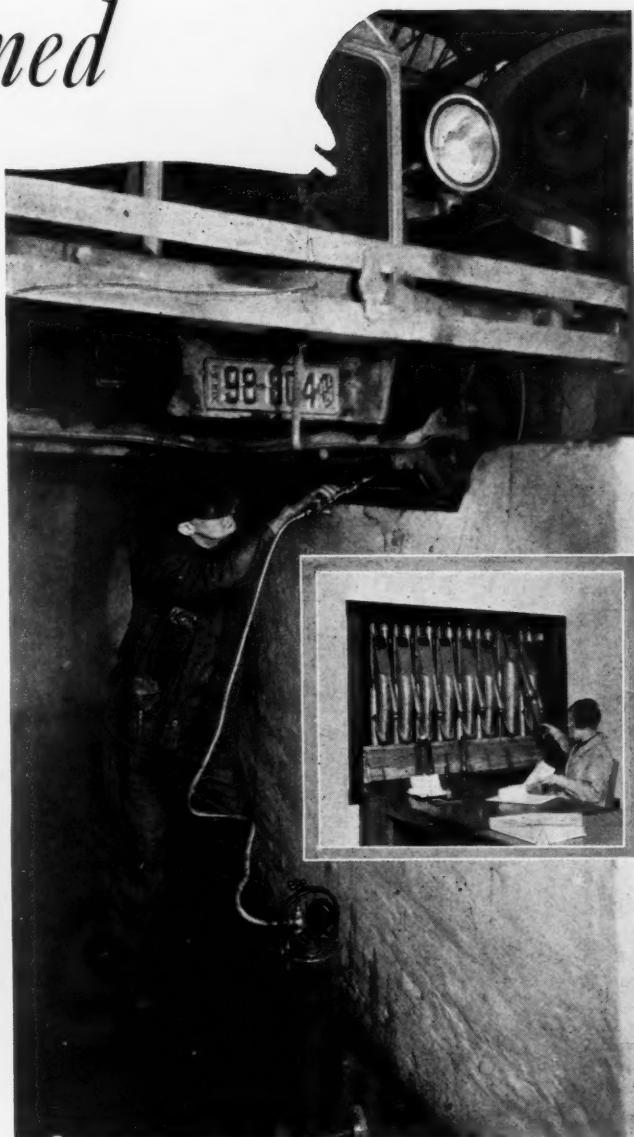
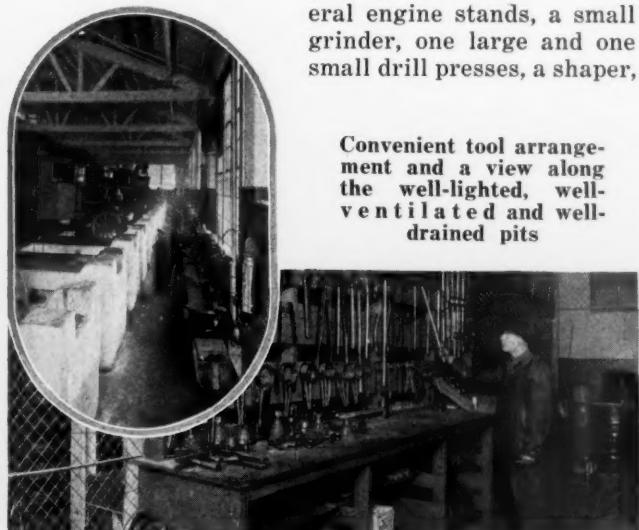


Parts are well displayed in this stockroom and it's easy to buy

gine and machine shop, overhauling and rebuilding for stock. This is made possible by the Diamond-T practice of substituting units instead of repairing damaged ones.

In the engine shop the machine tool equipment comprises, in addition to several engine stands, a small grinder, one large and one small drill presses, a shaper,

Convenient tool arrangement and a view along the well-lighted, well-ventilated and well-drained pits



Pits cut time on chassis lubrication. Insert—The central station of the pneumatic tube system

one 6-in. and one 14-in. lathe, the latter for handling brake drums, etc.

Two cabinets of special wrenches are features of the transmission shop, which is equipped with a brake shoe drill, brake riveter, clutch lining riveter, and an arbor press. Three mechanics specialize on this work.

In a small separate shop is a brazing hearth and a portable acetylene welding set that can be moved alongside the job to be worked on. With the exception of a wash, an oakite tank, and three washrooms, this completes the ground floor layout.

Heating of the building is cared for by the York heating system of blowers and heating coils. In hot weather these blowers can be used to circulate cold air. Exhaust fumes are carried off by means of suction pipes in the floors into which flexible tubes from the vehicle exhaust pipes are led.

Storage for lighter parts is provided on the second floor, along with the electrical repair shop. This is equipped with an armature growler, remagnetizer, motor for driving magnetos under test, and plug testing equipment. As with other units, repaired magnetos and generators are put into stock for sale, or replacement when a damaged unit is removed. Carburetors, incidentally, are repaired by the makers.

**\$2,075<sup>00</sup>**

for 27 Automotive

**Great Popularity Contest  
Under the Auspices of  
Motor World  
Wholesale**

Opened July 1

Closes October 15

**W**HO is your favorite wholesale salesman? Which one of the conscientious and hard-working men who call upon you in the interest of jobber or distributor deserves recognition for his ability and popularity?

We want you to help that man win a substantial cash prize in addition to deserved national recognition.

The United States is divided into nine trading zones. Contests are being conducted simultaneously in all the zones, and the three most popular and efficient salesmen in each zone will be awarded prizes of \$100, \$50.00 and \$25.00 respectively, depending upon the number of votes credited to the three leaders in each of the zones.

First Prize \$100.00

Second Prize \$50.00      Third Prize \$25.00

*In addition to the zone prizes there will be a master prize of \$500.00 to be awarded the salesman who receives the highest number of votes cast in any one zone for an individual. Hence the winner of the master prize will also win the \$100.00 zone first prize, making his total \$600.00 in cash.*

This Popularity Contest will place the spot-light upon the men in the various territories who are enjoying deserved popularity at the hands of their customers—the men who retail and service cars, parts, accessories and supplies. That will be recognition worthy of mutual effort, and will confer real honor upon each of the 27 prize winners.

The nine postal, or trading zones in the United States are as follows:

**NEW ENGLAND:** Maine, New Hampshire, Vermont, Rhode Island, Massachusetts, Connecticut.

**MIDDLE ATLANTIC:** New York, New Jersey, Pennsylvania.

**SOUTH ATLANTIC:** Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

**EAST NORTH CENTRAL:** Ohio, Indiana, Illinois, Michigan, Wisconsin.

**EAST SOUTH CENTRAL:** Kentucky, Tennessee, Alabama, Mississippi.

**WEST NORTH CENTRAL:** Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

# in Cash Prizes

## Wholesale Salesmen

WEST SOUTH CENTRAL: Arkansas, Louisiana, Oklahoma, Texas.

MOUNTAIN: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada.

PACIFIC: Washington, Oregon, California.

The electors will be the men who compose the retail trade—dealers, garage owners, service station proprietors, etc.

They will be requested to vote by ballot. Ballots will be printed in the regular issues of:

AUTOMOBILE TRADE JOURNAL (Monthly)

MOTOR AGE (Weekly)

COMMERCIAL CAR JOURNAL (Monthly)

CHILTON CATALOG & DIRECTORY  
(Quarterly)

These are the Chilton Class Journal publications which cover the retail trade—a coverage that is unique in its completeness.

During the period which commenced with the June 30 issue of *Motor Age*, the July 1 issue of *Automobile Trade Journal*, the July 1 issue of *Chilton Catalog & Directory*, and this issue of *Commercial Car Journal*, each issue of these publications will carry a voting coupon up to and including the *Motor Age* issue of October 6, 1927.

Votes will be received and counted at the publishing offices of the Chilton Class Journal Company, Philadelphia, up to 12 o'clock noon on Saturday, October 15, 1927.

Announcement of contest winners will be made in *Motor Age*, issue of October 27; in the November 1 issue of *Automobile Trade Journal*; the November 10 issue of *Motor World Wholesale* and the November 20 issue of *Commercial Car Journal*.

Prizes will be awarded to the winners during the week of November 7 in Chicago while the A. E. A. show and convention are current.

In each of the 15 (weekly) issues of *Motor Age*, which will be published during the Popularity Contest, the coupons printed therein will represent one vote each.

The four issues of *Automobile Trade Journal* and the three issues of *Commercial Car Journal*, both

published monthly, will carry coupons good for four votes each.

*Chilton Catalog & Directory*, quarterly, published on July 1, and will also carry a coupon good for four votes each.

All votes will be credited to the zone in which the wholesale salesmen's firm is located.

Should two or more candidates tie for the master prize, or for first, second or third prizes in any of the nine zones, all tied contestants will be awarded prizes of equal value, to which their respective votes entitle them.

The Chilton Class Journal Company, publishers of *Motor World Wholesale*, and of the dealer publications which are carrying voting coupons of this great Popularity Contest, invites every dealer, garage owner and service station proprietor—and all identified with the retailing of automotive products—to take part in the voting.

It urges them to assist in making this nationwide contest redound to the credit of the aggressive salesmen who will be declared the winners when the ballots have been cast and counted.

Address all correspondence to Contest Editor, *Motor World Wholesale*, Chestnut and 56th Sts., Philadelphia.

—Use This Coupon—

### MOTOR WORLD WHOLESALE Popularity Contest for Wholesale

Automotive Salesmen

Contest Editor

*Motor World Wholesale*

Chestnut and 56th Sts., Philadelphia

In the wholesale automotive salesmen's popularity and efficiency contest I vote for:

Name of salesman .....

Name of his firm .....

His firm's address .....

Your signature .....

Your firm name .....

Address .....

C. C. J., July 20—This ballot is for ONE vote.

## Truck Brakes Under Fire in Massachusetts

BOSTON motor truck dealers are very much concerned over a letter recently issued to the press in which there is an implied threat against truck manufacturers unless they change the brake equipment on certain models. As a result Day Baker, secretary of the Motor Truck Association of Massachusetts, went to New York to confer with executives of the N. A. C. C. on the subject. In his statement to the newspapers he says: "After a campaign of enforcement on brakes for a month and a half, the Registrar of Motor Vehicles has discovered that a great deal of the trouble with brakes on trucks is that the braking system is not properly constructed so that the vehicles may be stopped when loaded, and particularly when over-loaded. As a result he has written a letter to all truck manufacturers in the United States telling them what they may expect if they do not make improvements in the braking system on trucks: The letter to manufacturers says in part:

"Our most recent enforcement work in Massachusetts again emphasizes the necessity for a decided improvement in braking equipment on trucks. The campaign which is now being conducted in metropolitan Boston shows the following total results on trucks to date:

	No.	P.C.
Very bad (registrations immediately revoked)	404	7.1
Defective (owners required to repair and report)	2340	41.0
Passable	2973	51.9
 Totals	 5717	 100.0

"Braking equipment on trucks is classed as very bad, for immediate revocation, if the distance to stop from 20 miles an hour is 80 feet or more with the service brake, coupled with 100 feet or more on the emergency brake. (These limits are 60 feet and 80, respectively, on trucks of less than two-ton capacity.)

"Truck brakes are classified as passable if the vehicle can be stopped in 45 feet or less with the service brake from a speed of 20 miles an hour, or from the maximum governed speed, and 80 feet with the emergency brake, from a speed of 20 miles an hour.

"Brakes in such condition that they come between these two classifications are classed as bad, and the owner is required to have the defective equipment corrected, and report with the vehicle to one of our offices for inspection.

"Good braking equipment is essential for safe operation, but it would seem that the truck manufacturers have been slow to realize the necessity for making an improvement in this direction. Trucks are operated quite generally in thickly settled sections, where children and other pedestrians are so often killed in motor vehicle accidents, and defective brakes on trucks are re-

sponsible for many of these fatalities.

"The stopping distance limitations above referred to have now been reduced somewhat from those of two or three years ago, and it is our intention to reduce them still further in the near future. This may have the effect of restricting the operation of some makes of trucks. If that situation does occur, the manufacturer will have no one but himself to blame, because he has had not only this notice, but also one sent out by this department on Sept. 9, 1925."

munerating salesmen. All used truck salesmen are paid a salary of \$200 a month, \$25 a month for operating their cars, and a commission of 3 per cent on their sales, after trade-ins are deducted. "The salary is enough to keep the wolf away and it relieves the salesman's mind of the worry and uncertainty that handicap so many commission salesmen," Mr. Craig pointed out.

### The Second Half Looks Good

(Continued from page 11)

ment is a trifle more than of seasonal proportions, but even so the industry is continuing at a satisfactory rate . . .

"The textile industry as a whole is now in the best position of several years, and the cotton branch especially has been enjoying active business. The sustained heavy volume of building contracts let in May indicates that construction for 1927, while it may fall somewhat short of that in 1926, will compare favorably with other years of high activity.

"The crop outlook is mixed and is, in fact, somewhat less favorable than a month ago." This reaction is due to a considerable extent by unfavorable weather. Continuing the bank says: "The effect of adverse weather to date has been to increase the agricultural hazard, but of course the final outturn will be determined later on. The prices of many agricultural products have advanced sharply in response to this increased uncertainty."

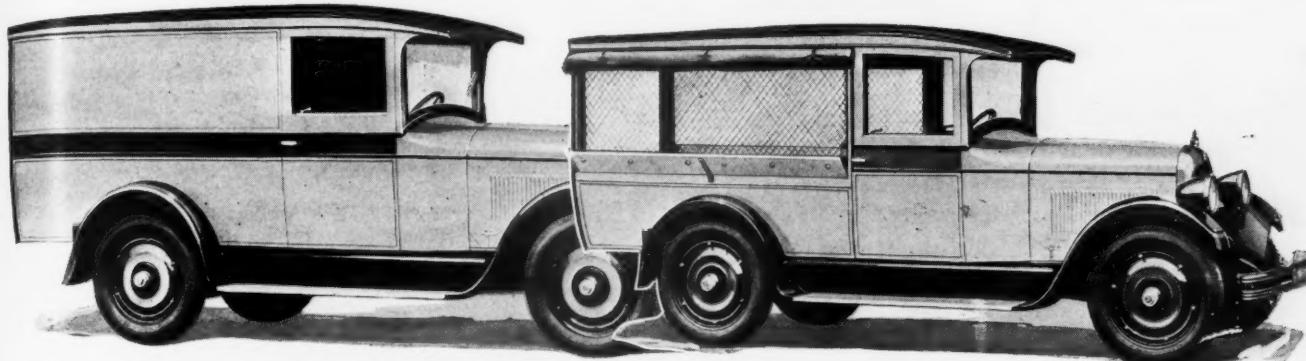
In similar vein, the Cleveland Trust Co. says: "All in all the current developments of business continue to be those of large volumes of production, transportation, and trade, stability of conditions, and keenness of competition. There is little unemployment, but no competition for labor. Wages are high and wage disputes few. The railroads continue to carry great amounts of freight, and to do it with marked efficiency. It seems likely that substantially these same conditions will maintain for some months to come."

Other similar views of able economic observers might be quoted in large number. They indicate that the best opinion is that business enters the second half year with every reason for confidence that it will enjoy a satisfactory volume on which a fair profit will be earned. Naturally truck business will keep in step.

Profits on truck sales will depend to a large extent on the effectiveness of the control applied to the credit and used truck situations. These continue to be the weak spots in the truck business but the records of the half year just ended indicate that they are constantly being strengthened.

The second half looks good for those who sell truck transportation.

# The Month's New Truck Models



Views of the panel and express type bodies of the new  $\frac{3}{4}$ -ton Studebaker, 113-in. wheelbase chassis, powered by six-cylinder engines and equipped with four-wheel brakes

## Studebaker

TWO new  $\frac{3}{4}$ -ton delivery units, mounted on a 113-in. wheelbase chassis, powered by a six-cylinder Studebaker engine and equipped with four-wheel brakes, have just been placed on the market by the Studebaker Corporation of America. They are offered in express and panel type bodies at the same price, \$1,195 f.o.b. factory.

The  $3\frac{3}{8} \times 4\frac{1}{2}$  in. L-head engine is mounted in unit with a single-plate clutch and a three-speed transmission with reverse. It develops its full horsepower at 2200 r.p.m. and has an S.A.E. rating of 27.3 hp. Connecting rods are forged steel and bearings cast babbitt. The crankshaft, supported by four bronze-backed bearings, is drop-forged from steel and machined on all surfaces. The camshaft is also carried on four bearings. The valves are operated by a roller type of bell crank.

Combined in a compact unit, the oil pump, water pump, generator, relay coil and distributor, are mounted on a single base at the right side of the engine. Force feed lubrication to all the bearings is supplied by a gear-driven pump. Pressure is indicated by a gage mounted on the instrument board. Chassis lubrication is by high pressure.

A one-inch specially designed plain tube carburetor fed by vacuum from a 14-gal. tank is used. The intake manifold, with hot spot, is doubly divided to assure uniform mixture in each cylinder. Current of ignition is supplied by generator and battery. The cooling system includes a centrifugal pump, tubular type radiator and 17-in. fan. The starting switch is conveniently located on the toe-board.

Power is carried back from the transmission by a  $1\frac{1}{4}$ -in. tubular propeller shaft equipped with two universals to a semi-floating, spiral gear type rear axle of Studebaker design. Load is carried on taper roller bearings at wheel hubs and differential. Drive is Hotchkiss, the torque being taken through large semi-elliptic springs. The rear ends of both front and rear springs are carried on steel links. All spring eyes are bronze bushed.

The four-wheel brakes are of the mechanical type, internals on the front wheel expanding on  $14\frac{1}{8} \times 2$  in. drums and externals on the rear contracting on  $14\frac{5}{16} \times 2\frac{1}{4}$  in. drums. A propeller shaft parking brake is also provided. The steering gear is of the worm and worm wheel type specially designed for the  $33 \times 6$  in. balloon tires used on this model. Reinforced by six cross-members, the pressed steel frame is narrow at the front to allow a short turning radius. The side members are 6 in. deep with  $1\frac{1}{8}$  in. flange. Wheels are steel disk.

Standard equipment includes automatic windshield, rear-vision mirror, speedometer, hydrostatic gasoline gage, engine heat indicator, oil pressure gage, ammeter and front bumper.

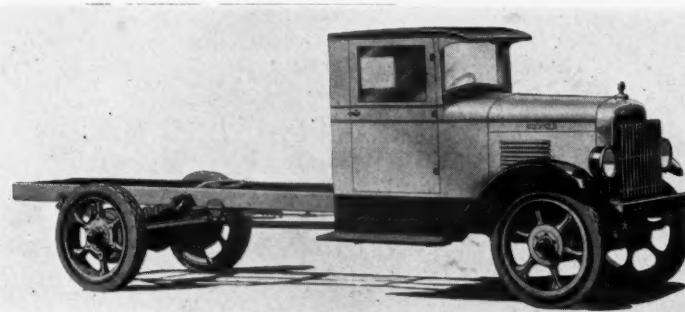
The panel body is designed with a taper roof line to give greater height

at a point just back of the driver. Narrow wheel housings give extra body width. The inside dimensions are: Length from driver's seat to rear doors, 77 in.; width, 54 in.; headroom,  $51\frac{1}{2}$  in.; and cubic feet of loading space, 123.9; the floor level is 30 in. above the ground. It is constructed of hardwood, ironed and bolted for strength. The sheet steel panels protected by  $2\frac{1}{2}$ -in. slats on the inside are turned at the top to give an unbroken surface. The rear door opening is 49 in. wide and  $44\frac{1}{4}$  in. high. Both doors are fitted with windows.

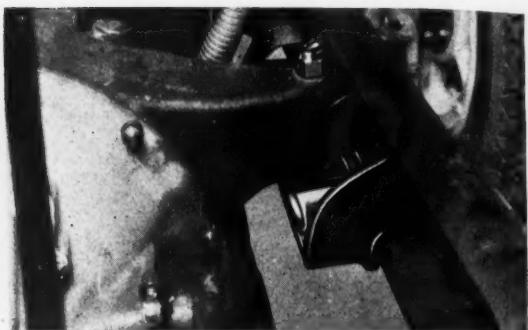
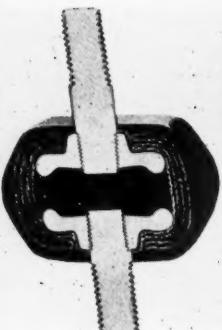
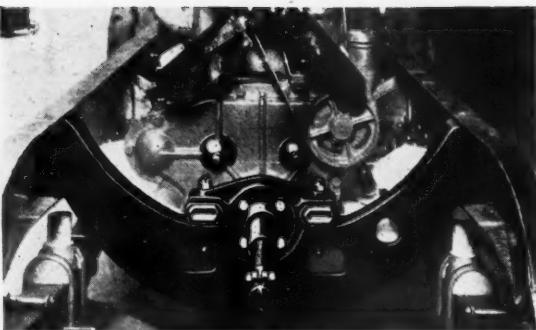
The express body has the same inside dimensions as the panel body, but a drop-end tail-gate, which fits flush with the body sides, may be carried and the removable side screens give much added room for packing. The 14-in. steel covered side panels are topped with 8-in. flare boards. Screen trays may be used for fragile packages. The roof is covered with coach deck material, protected by insulated slats. Celluloid fitted roll curtains are provided.

## Indiana

THE new two-ton Indiana, designated as model 115, recently announced by the Indiana Truck Corp., Marion, Ind., is designed for heavy duty service requiring reserve power and speed. It is furnished in three wheelbase sizes, namely: standard, 150 in.; long, 168 in.; and short, 132 in. With a chassis weight of 4585 lb. and body allowance of 1050 lb., the maximum allowable payload is specified at 5050 lb. On the standard wheelbase model a loading space of 10 ft. 6 in. from back of the driver's seat is provided. Length from



Model 115, two-ton Indiana heavy-duty speed truck. It is furnished in three wheelbases



Showing where and how the engines in Diamond T chassis are now being cushioned in rubber. Note the live rubber composition between the studs in the cross-section view of the unit. At no point in the engine mounting is there contact of metal to metal. The left view shows front engine mounting and the right the rear engine leg mounting

seat to center of rear axle is 6 ft. 3 in.; width of frame is 34 in.

The four-cylinder engine is L-head type, cylinders and crankcase cast in block and with detachable head. It is of 4 in. bore and 5 in. stroke and suspended at three points. The oiling system is force feed and includes a gear pump and oil filtrator. The cooling system consists of a centrifugal pump, 18-in. fan and fin and tube type radiator with removable core and aluminum shell. Carburetion is aided by hot spot manifolding and the 1 1/4 in. plain tube carburetor is fed by gravity from a 16-gal. tank located in the cowl. Ignition is by battery with distributor and coil.

The transmission line consists of a dry plate clutch, four speed transmission with a low gear reduction of 5.35 to 1, one-piece tubular propeller shaft equipped with two metal universal joints and a semi-floating worm-driven rear axle providing 6.5 to 1 reduction.

Both service and emergency brakes are of the internal type operating on 16-in. rear-wheel drums. The steering gear is of the cam and lever type.

Spoke type metal wheels are used in front and rear equipped with solid tires, 34 x 4 in. front; 34 x 7 in. rear. Pneumatics may be used. Speed with solid tires is 25 m.p.h.; with pneumatics, 30 m.p.h.

Equipment includes motometer, crown front fenders, running boards with splash aprons, metal radiator guard, wood and metal bumpers, electric lighting and starting equipment, oil pressure gage, dash light, drum type head lights, air cleaner, oil filter and speedometer. The de luxe cab, which is extra equipment, has full length doors, with sliding glass windows, operated by crank, and a one-piece windshield.



A deeper frame, larger springs, new brake hook-up and special equipment feature the improved Selden Roadmaster model 47

## Selden

THE Roadmaster model 47 is the first of the line of Selden trucks to embody the new improvements worked out by the Selden engineers.

These changes include a deeper frame, 7 in., larger castings, shackles and brackets and heavier springs. Air cleaners and oil filters are also standard equipment on the new model.

An entirely new service brake hook-up, which brings all four shoes into operation through the pedal with the aid of B. K. Vacuum Booster brake, is another feature. In addition a prop-

ler shaft brake is furnished if desired, which consists of a steel disk located back of the center bearing.

All instruments including dash type motometer, gasoline gage, oil pressure gage, speedometer and ammeter are grouped in center panel under glass with concealed lighting. Ignition and lighting switch are located on the steering column. Automatic windshield wiper, rear view mirror, dual rear pneumatic tires and Ryan Ilco flat lights are part of the regular equipment.

The de luxe cab is another feature with driver comfort and convenience, the main considerations in construction. The remote control type door opener and window regulator are of the latest bus design. Narrower corner posts permit clear driving vision.

## I. H. C.

TWO trucks with double reduction gear drive in which herringbone gears are used for final reduction are being manufactured by the International Harvester Co., Chicago, Ill. The new models designated as 54 and 74 are similar in design and are rated at 2 1/2 tons and 3 1/2 tons respectively. These ratings correspond with models 54-C and 74-C which have chain drive.

The engine in both models is a four-cylinder 4 1/4 by 5 in. with removable cylinder sleeves and ball bearing crankshaft. Transmission gives four speeds forward. Gear reduction on model 54 is 54 to 1 on first and 9.1 to 1 in high while the corresponding ratios for model 74 are 62 to 1 and 10.45 to 1.

Primary reduction in the rear axle is by means of spiral bevel gears and final drive by herringbone gears. The bevel pinion and bear-



Slip-on type of commercial body for Pontiac coupe or roadster offered by the Oakland Motor Car Co. Both express and panel type bodies are offered and mounted by removing rear deck cover

ings are adjusted from the front by using a spanner on the forward pinion bearing cage and the bevel gear is adjusted in like manner by a cage on the right side of the countershaft. The herringbone gears adjust themselves to proper running position if the differential carrier caps are loosened slightly for that purpose.

Service brakes are internal type 5 in. wide on the rear wheels on both models those on the 54 are 17 in. in diameter and on the 74 20 in. in diameter. A contracting propeller shaft emergency brake is used on both models. Either solid or pneumatic tires may be had on either truck.

## Federal

THREE new six-cylinder models, a one-ton bevel gear, F-6; a two-ton worm drive, T-6W, and two-ton bevel gear drive, T-6B, have been added to the line of the Federal Motor Truck Company.

Featuring the design of all three models is an interchangeability of engines, and either a Continental six-cylinder or Waukesha four-cylinder can be obtained. To make interchangeability complete the Continental 30L on the one-ton, and the 12C on the two-ton models have been redesigned. Three-point suspension is used instead of the usual four.

Wheelbase of the Scout Six, one-ton, is 124 in., including a loading space of 91 in., back of the seat. A 136 in. wheelbase chassis is also furnished. The chassis itself follows closely on the design of the Federal four-cylinder model of the same capacity, and includes Borg & Beck single-plate dry clutch, three-speed unit transmission, built by Federal, Cleveland Universal joints, Timken bevel drive rear-axle,

Fast duty, 200-in. wheelbase, Gramm highway freighter, model 864-T. It is mounted on 35 x 7 in. pneumatic tires, dual in rear and capable of 40 m.p.h. The engine is an 80 hp. Lycoming



and metal spoked, and the semi-elliptics with Hotchkiss drive.

Four main bearings support the 2 1/2 in. crankshaft of the one-ton model, L-head engine, which has a bore and stroke of 2 7/8 by 4 1/4 in., giving it a piston displacement of 185 cu. in. and rated horsepower of 19.85. Dynamometer tests show this engine capable of developing 44.5 hp. at 2800 r.p.m. Lubrication is by pressure feed. Cooling is by means of a centrifugal pump. Additional features are the supplying as standard equipment of oil strainer, gasoline filter and air cleaner. Maximum speed of this model is said to be in the neighborhood of 50 m.p.h. Body allowance is 750 lb.

Standard wheelbase of the two-ton models, which differ mainly in the type of rear axle drive used, is 143 in., which gives a loading space of 119 in. back of the cab. Special wheelbases of 155, 168 and 180 in. are also available, while a tractor edition with a 132 in. wheelbase is also offered.

The six-cylinder engine on the two-ton models is also of the L-head type. It has a bore and stroke of 3 1/4 by 4 1/4 in., giving it a piston displacement of 230.2 cu. in., NACC rating of 25.35 hp., and 62 actual horsepower at 2700 r.p.m. A seven-bearing 2 1/2 in. crankshaft features this engine. Pressure oil feed.

Differing from the one-ton model, the

A Borg & Beck 12-in. single-plate clutch is used on both two-ton models. Both types of rear axles are of Timken manufacture. The worm drive axle has a tread of 60 in., and road clearance of 10 1/2 in., while the spiral bevel gear model has a tread of 57 in. and a road clearance of 9 1/2 in.

Front axles of both models are I-beam in cross-section, manufactured by Federal, and have a tread of 60 in. With the worm drive axle an emergency brake is mounted on the worm housing. Service brakes with this type axle are of the internal type mounted on the rear wheels.

With the bevel gear axle both sets of brakes are mounted side by side on the rear wheels. These are also of the internal expanding type.

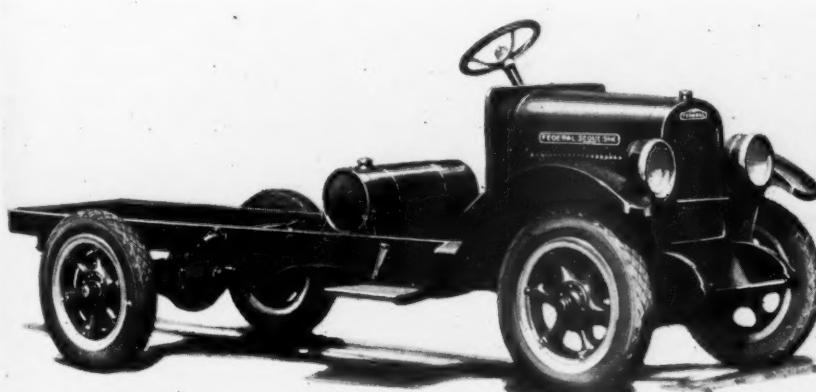
As on the one-ton model a Gemmer worm and sector steering gear is used; chassis lubrication is by Zerk pressure gun system; Delco-Remy electrical units are supplied and a 15-gallon gasoline tank is mounted on the chassis under the seat with vacuum feed to engine. The frame of the two-ton model is six in. deep as against 5 in. for the one-ton job. 3/16 and 1/4 in. stock respectively is used for the one and two-ton frames.

In addition to the usual equipment, oil filter, gas strainer, and air cleaner are furnished on the two-ton models also. Solid tires are furnished with the worm drive axle model. These are 34 by 4 in. standard at the front, and 34 by 7 in. at the rear wheels. Optional oversize solids, as well as pneumatics are furnished on this model at extra cost. Pneumatic tires are standard equipment on the bevel gear two-ton model. These are 32 by 6 in. front, and 34 by 7 in. rear, with oversize pneumatics at extra cost, the latter being supplied with the dual rear disk wheels. Cast steel spoke wheels front and rear form the standard equipment. Springs on the two-ton models are of the semi-elliptic type, 40 x 2 in. front, and 52 x 3 in. rear. Radius rods are used on both two-ton models, these being fitted with ball and socket joints both front and rear.

Body allowance on the two-ton models is 900 lb. in either case. Chassis weights of the various models are as follows:

One-ton ..... 2500 lb.  
Two-ton, worm drive ..... 4200 lb.  
Two-ton, bevel drive ..... 4000 lb.

Standard gear ratios are 4 5/9 to one on the one-ton and 6.0 to one on both two-ton axles.



New two-ton bevel gear drive Federal, model T-6B. It is of the four-speed type

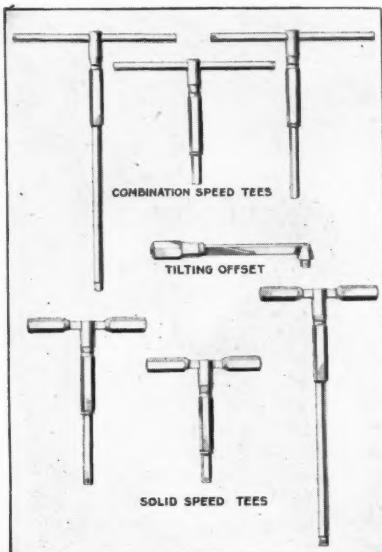
internal expanding side by side service and emergency brakes on the rear wheels, 30 x 5 in. pneumatic tires, Gemmer steering gear, Zerk chassis lubrication, Delco-Remy electrical units and Zenith double venturi carburetor. Front axle is of the I-beam type built by Federal, wheels are 20 in. in diameter

transmission is mounted amidships. It is of the four-speed type, and built by Federal, with annular ball bearings and three-point support. The front propeller shaft is fitted with a Snead fabric universal joint, while the rear driveshaft has Cleveland universals of the metal type.

**Husky Combination Speed Tees**

Husky Wrench Co., Milwaukee, Wis.

**T**HE three sizes of combination speed tees have 10 in. sliding bars and swivel grips. Other new units include three sizes of speed tees with solid hexagon handles and swivel grips and an entirely new type



of wrench handle known as the Husky Tilting Offset. This handle gives a compact offset with a handle that can be tilted under any angle to clear obstruction while working. New sockets include specials for wing nuts, Alemite fittings and 25 sizes of sockets and drain plug adaptors.

**Manley Universal Lifter**

Manley Mfg. Co., York, Pa.

**A** FEATURE of this lifter is that the raising pad lowers to six inches from the floor making it possible to lift from the bottom. Either short or long bases may be used with the lift and when the long base is used an extension arm may be added to convert the lifter into a portable floor crane. The short base is equipped with two wheels and two ball bearing casters. The long base has four ball bearing casters. Price of the lifter on short base is \$85, on long base with attachments, \$108.50, and with both bases and attachments, \$115.

**B. B. Bros. Hand Hoist**

Beebe Bros., Seattle, Wash.

**A** N all-steel hand hoist of the compound geared, two-speed type is being manufactured by the above company. The hoist has a positive cam action internal brake



and a spring operated safety dog equipped with positive lock-out lug. The internal gear and extended drum shafts are made as a part of the drum and the external gear, with machined internal brake drum, together with driveshaft and internal pinions are also made of one piece of steel.

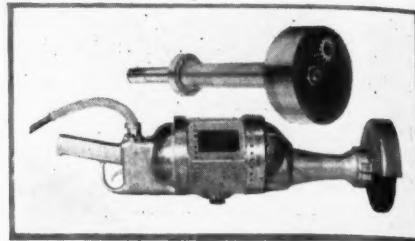
The cable drum has a capacity of 160 ft. of  $\frac{1}{8}$  in. steel cable. Special attachment plates are provided for mounting the hoist on a truck. Price of the hoist is \$75 on the Pacific Coast, \$80 in Chicago and Central States and \$80 in Atlantic Coast States, all prices being f. o. b. warehouses at Seattle, Chicago, Brooklyn or New Orleans.

**Airbestos Brake Lining**

Charles D. Schmidt Corp., New York City

**A**IRBESTOS is constructed so as to form air ducts on the brake band side of the lining with full braking contact on the other side. The ducts consist of a series of little air channels introduced crosswise between the brake band and the lining itself. This construction permits air circulation and reduces the contact of the lining to the band, which in turn is claimed to prevent overheating and expanding of the bands. The cushioning characteristic claimed for this construction is also stated to eliminate squeaking.

This lining is made of asbestos interwoven with wires and impregnated with a compound designed to make it water, oil and acid proof.



this gear design. The wheel spindle is also supported at each end by taper roller bearings to withstand the constant side thrust to which a grinder spindle is subjected. Another feature of this grinder is the new location of air intake holes, which was adopted to prevent sharp particles from being drawn in the motor windings.

**Parts Distributed With Speed and Accuracy***(Continued from page 14)*

making out the bill of lading. A copy of this sheet containing the tag numbers is filed with the bill of lading for reference in case of loss or damage. This packing procedure applies to all parts except that those of a heavy or bulky nature are not accumulated in bins but are packed from special trucks delivering them to the packing room.

When the paper copies of the tags reach the office, they are listed on billing forms which in turn are forwarded to the accounting department for crediting the factory inventory and charging that of the branch. The tag copy then is filed by number, a separate file being kept for each branch.

At the branch the shipment when received is checked against the bill of lading. While the box is being opened, the branch's file of original tag copies is obtained and, as the items are removed, the cardboard copies are detached and compared with the original. The checked original copies then go to the branch stock records for posting of the receipts. The cardboard copy, still attached to the item, serves to locate the part in the proper bin as the bin location was put on it originally.

In connection with the system, the White Co. is using with success a bonus plan for the men employed in the factory stockroom through which they earn in proportion to their production.

Among the things which bus manufacturers might do for operators according to Mr. See, are to provide more complete and better illustrated catalogs, improve braking systems, set up practical specifications to be used in purchasing lubricating oil, improve fuel tank installations and make it easier to remove engines to facilitate installation of a spare unit.

**Black & Decker Hole Saw**

Black &amp; Decker Mfg. Co., Towson, Md.

**T**HIS saw is used for cutting holes from  $\frac{3}{4}$  in. to  $3\frac{1}{2}$  in. diameter. A  $\frac{1}{4}$  in. twist drill is used as a guide for the saw. The hole saw may be used with Black & Decker portable electric drills of  $\frac{1}{2}$  in. and larger sizes. A complete set of saws for automotive service consists of five saws and two mandrels and sells for \$7.50.



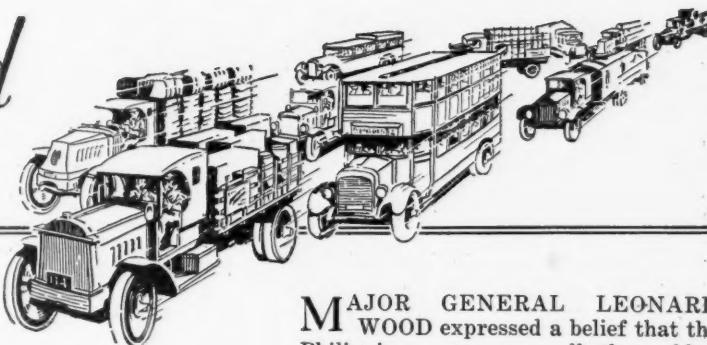
larger blade than the power unit can carry. A feature of the new model is a guard which covers the blade at all points. The safety guard is released quickly by means of a trigger in the grip when being used, which falls back automatically when the saw is removed from the work. The blade is covered at all points above the work when the machine is in use. An indicator in front makes it possible to follow a line.

By means of a depth gage the saw can be set to cut to any predetermined depth. A standard 8-in. round-hole blade is used.

**Black & Decker Hole Saw**

Black &amp; Decker Mfg. Co., Towson, Md.

# Have You Heard That ~



TRAFFIC experts from all over the country recently met in Detroit for the organization of a national committee on municipal traffic codes. Subcommittees were appointed to investigate the following subjects: Motor vehicle movement and regulation, pedestrian facilities; traffic signs, signals and markings; parking terminals and garages; public motor vehicles, steel cars, and emergency vehicles; traffic organization and enforcement; railway grade crossings; street loading facilities, and obstruction for repairs. According to William E. Metzger, chairman, all reports will be turned in some time during fall.

The Yellow Sleeve Valve Engine Works established in East Moline in 1922, will be moved to Pontiac, Jan. 1, 1928, according to Paul W. Seiler, president of Yellow Truck & Coach Mfg. Co. Louis E. Ruthenberg, general manager, has been appointed assistant to the president, and will be in charge of the plant being erected at Pontiac.

W. C. Parker, manager of the Speed Wagon and Bus Division of the Reo Motor Car Co., has been appointed a member of the Truck Committee of the National Automobile Chamber of Commerce.

BETWEEN January 1st and June 15th this year, 471 repossessions were reported by 18 members to the credit bureau of the Motor Truck Association of Illinois.

The reports mean that the operators

of these trucks who could not meet their payments will be unable to victimize any other member of the association.

Another function of the credit bureau is to control the credits on the sale of parts and service. The association members have agreed to sell all parts and service on a 30-day basis only, and to report to the bureau any accounts outstanding over 60 days, or otherwise troublesome.

## 19.9 Per Cent of Highway Users Come From Distant Points

THE tremendous economic and social significance of good roads upon a community is reflected in the results of a traffic survey conducted by Tennessee last summer which showed that 27.7 per cent of the vehicles traveling over state and state-aid roads are from distant points. The survey was based on reports from 41 scattered stations. Results: 72.3 per cent from local or immediately adjacent counties; 19.9 per cent from distant counties, and 7.8 per cent from other states.

MAJOR GENERAL LEONARD WOOD expressed a belief that the Philippines can grow all the rubber needed by the automotive industry in the United States in an interview with President Coolidge. He said, "It is essential, however, to interest American capital, capable of carrying on for four or five years until the plantations start producing. I personally favor the granting of leases up to 50,000 acres for a period of 25 years."

E. A. Manning has been appointed branch manager of the Pittsburgh branch of the Diamond T Motor Car Co. with Ray Burns as wholesale sales manager of the Pittsburgh territory. Frank Hollearn, his predecessor, will cover the eastern territory as wholesale sales manager with Philadelphia as headquarters.

Republic Truck Sales Company has made Portland, Ore., its headquarters for the states of Oregon, Washington, Idaho, Utah, Wyoming, Montana and the province of British Columbia. Thomas M. House has been named northwestern manager.

J. WALTER DRAKE will retire early in the fall as Assistant Secretary of Commerce with high tributes paid by Secretary Hoover. Mr. Drake previous to his governmental connection in 1923 was chairman of the board of the Hupp Motor Car Co. He is well known in the industry having served as a director of the U. S. Chamber of Commerce and the National Automobile Chamber of Commerce. He will resume active participation in his various interests connected with the automotive industry.

Carl Abell, advertising manager of the American Car & Foundry Motors Co., has been transferred to the Pacific Coast sales force. He will be succeeded by James J. McMahon, formerly of the sales promotion department of the International Motor Co.

John A. Servas has been appointed manager of the National Standard Parts Association show to be held in Cleveland, Nov. 1.

FIRE completely destroyed the plant of the Galion Metallic Vault Co., Galion, Ohio, early in June. While the company is covered by insurance the loss due to temporary suspension of business will be heavy. However, a new structure with new machinery is under construction and business will be resumed just as soon as possible. The dump body division which was located at one end of the plant was burned out at the same time.



Yellow Coach & Truck Manufacturing Co. executives present at the turning of first shovelful of earth for new Pontiac factory

They are, from left to right: M. T. Boden, assistant to the president; H. J. Warner, works manager; Louis Ruthenberg, assistant general manager; J. E. Humphrey, assistant to the president; Paul W. Seiler, president and general manager; P. H. Welhener, Pontiac branch manager V. G. Phillips, general sales manager; Col. G. A. Green, vice-president in charge of engineering; J. A. Murray, factory manager; and W. F. Maybury, comptroller

THE first national convention of the Bus Division of the American Automobile Association held in Philadelphia last month accentuated the growing tendency to study the various difficulties confronting the bus industry in a more open-minded spirit. Among the speakers were: A. J. Brosseau, Mack Trucks, Inc.; F. J. Scarr, formerly supervisor of motor transportation, Pennsylvania Railroad System; Fred Klock, who presented B. W. Arnold's paper; C. T. McConnell, Cleveland - Ashtabula - Conneaut Bus Co.; H. G. Wells, Commissioner of Public Utilities, Mass.; H. R. Trombower, University of Wisconsin; S. A. Markel; Tom Snyder, field representative of the division; and R. T. Senter, Philadelphia Rapid Transit Co.

J. A. Morris has joined the Autocar factory organization as assistant sales manager. Mr. Morris was formerly identified with the sale of Mack trucks. In his new capacity he will be the traveling executive in charge of dealers and dealer sales.

HOWARD E. SNEATHEN has been appointed director of commercial car and truck sales, of Dodge Brothers. Mr. Sneathen was formerly Dodge Brothers district representative at Chicago and Des Moines. R. L. Biggers was placed in charge of sales promotional and development work of the same division. Mr. Biggers has been with Dodge Brothers since 1920 when the company first entered the truck field.

**Arcadia Truck Body Corp.** is the name under which the Arcadia Trailer & Mfg. Corp., Newark, N. J., will be known in the future. The company will continue to make trailers, but will concentrate on truck bodies and cabs. This change does not affect the personnel.

R. W. Moore has been appointed manager of the White Company's Portland district. Mr. Moore comes from Oakland, Cal., where he has been branch manager for the past year.

THE industry's payroll for May, 1927, is 0.9 per cent higher than May, 1926, but the number of workers decreased 2 per cent, according to U. S. Bureau of Statistics of the Department of Labor. The number of workers for May, 1927, however, exceeded April, 1927, by 923. May totaled 338,816 workers.

George Kuhlman has been appointed district manager for the Heil Co. covering the Eastern territory with headquarters at the Heil branch, Rawson St. and Queens Blvd., Long Island City, N. Y. Mr. Kuhlman has been associated with the company since 1919.

US operators of Indianapolis showed a deficit of \$890,647 in 1926, according to figures presented by the public service commission. Revenues totaled \$5,176,652 and expenses including depreciation, \$6,067,299. The Shore Line Motor Coach Co. showed the greatest loss with a deficit of \$222,837.

PEACH growers of North Carolina are experimenting with trucks in the transportation of peaches to northern markets. Heretofore peaches have been shipped exclusively by rail. While this method has been fairly satisfactory, the loss from delay at junction points, broken crates, etc., has been high. Growers and packers who have been using trucks this year say that they can get quicker and safer delivery and that there is very little difference in cost. New York is about two days from the orchards. Growers state that if the trucks stand up through the season all peach growers will use trucks next year for Washington, Baltimore, Philadelphia and New York shipments.

C. W. Hall has joined the sales department of the Duplex Truck Co. Mr. Hall was formerly manager of the Lansing branch of the Olds Motor Works, and later with the Reo Motor Car Co.

ROY A. HAUER, manager of the bus department of the Mack-International Motor Truck Corp., was elected a vice-president of the company at the June meeting of the directors.

## Coming Events

### SHOWS

Chicago .....	Nov. 7-12
Exposition, Coliseum, Automotive Equipment Association.	
*Chicago .....	Jan. 28-Feb. 4
National, Coliseum, National Automobile Chamber of Commerce.	
Cleveland .....	Oct. 3-7
Public Auditorium, American Electric Railway Assn.	
Cleveland .....	Nov. 14-19
Convention Hall, National Standard Parts Association.	
Cleveland .....	Jan. 9-13
Public Auditorium, American Road Builders' Assn.	
Des Moines .....	Feb. 20-25
Coliseum.	
Green Bay, Wis. ....	Aug. 29-Sept. 2
Auto Building.	
Minneapolis .....	Feb. 4-11
Municipal Auditorium.	
*New York .....	Jan. 7-14
National, Grand Central Palace, National Automobile Chamber of Commerce.	

### CONVENTIONS

American Electric Railway Association, Public Auditorium, Cleveland .....	Oct. 3-7
American Road Builders' Assn., Hotel Hollenden, Cleveland .....	Jan. 9-13
Automotive Equipment Association, Coliseum, Chicago .....	Nov. 7-12
National Association of Automobile Show and Association Managers, Drake Hotel, Chicago .....	July 28-29
National Standard Parts Association, Hotel Hollenden, Cleveland .....	Nov. 14-19

### S. A. E.

Chicago, November—National Transportation and Service Meeting.  
New York, Jan. 12—Annual Dinner.  
Detroit, Jan. 24-27—Annual Meeting.

\*Will have Special Shop Equipment Exhibit.

GRAMM MOTORS, INC., Delphos, Ohio, has filed papers with the secretary of the state increasing its 7 per cent preferred stock from 1000 to 2500 shares of \$100 par value, and common stock from 5000 to 6500 shares with no designated par value. The amendment also provides that if four consecutive dividends are passed preferred stockholders are given a vote at any stockholders' meeting, which privilege is retained until past dividends are paid.

TO date applications have been received for more than 100,000 sq. ft. of space at the annual convention of the American Electric Railway Association in Cleveland, next October. This figure is well above the reservations made by exhibitors at comparable dates in previous years.

W. G. Clay, sales manager of the Selden Company, reports truck sales for June, 21 per cent greater than for June, 1926. The increase is attributed to the new three-ton Roadmaster speed truck.

SPITDORF-BETHLEHEM ELECTRICAL CO. has insured each of its employees in the sum of \$1,000, according to Walter Rautenstrauch, president. The plan includes a total permanent disability benefit as well as coverage on the life of the employee. The protection is afforded without expense to the employee.

H. L. Williams, until recently field editor for the Chilton Class Journal Publications, has been appointed sales promotion manager for the Bendix Corporation and its subsidiary, the Bendix Brake Company of South Bend, Ind.

Howard H. Tewksbury, formerly in the export department of General Motors Corp., has been appointed automotive trade commissioner for South America by the Bureau of Foreign and Domestic Commerce. Mr. Tewksbury has been with the department for six years.

MOTOR truck and bus registrations in the United States during the first six months of 1927 totaled 2,610-757 as compared with 2,407,201 in the corresponding period of 1926, a gain of 203,556 or slightly more than eight per cent, according to the annual mid-year survey made by Automotive Industries.

Diamond T Motor Car Co. announces the following dealer representatives: H. G. Keith, Inc., Cambridge, Mass.; Schafer Motor Truck Co., Springfield, Ill.; J. M. Crinigan, Decatur, Ill., and Schildkraut-Mayer Co., Jamaica, Long Island, N. Y.

GENERAL MOTORS ACCEPTANCE CORP. has requested authority to increase its capital from \$25,000,000 to \$35,000,000, this increase to be effected through the sale of 100,000 shares of stock of General Motors Corp. at a premium price of \$125 a share.

# IN THE FOUR GREAT AIR ACCOMPLISHMENTS!

## WRIGHT ENGINES

EQUIPPED WITH

## BETHLEHEM DROP FORGINGS



*Spirit of St. Louis*, Ryan Monoplane, in which Colonel Charles Lindbergh made the first non-stop flight between New York and Paris.



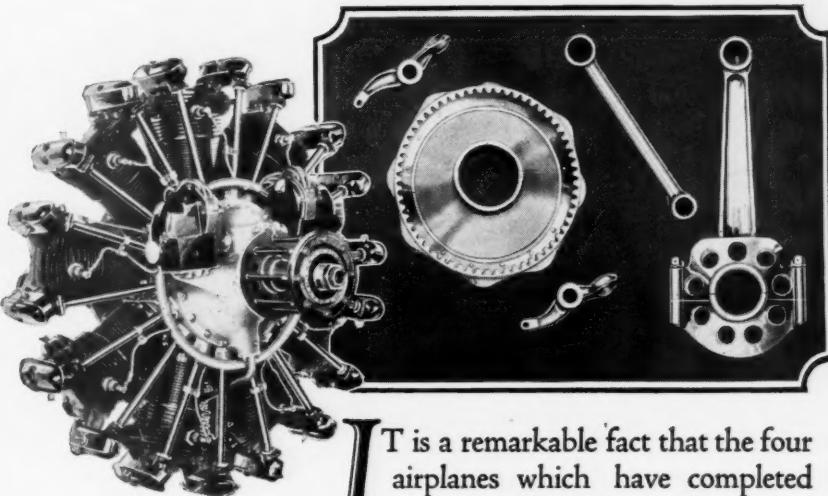
The Bellanca Monoplane *Columbia* in which Chamberlin and Levine made their non-stop flight from New York to Eisleben, Germany.



Tri-motored Fokker Monoplane, in which Lieutenants Maitland and Hegenberger made the first non-stop flight between San Francisco and Hawaii.



Tri-motored Fokker Monoplane *America*, in which Commander Byrd, with Acosta, Noville and Balchen, crossed the Atlantic in the interest of aeronautical science.



IT is a remarkable fact that the four airplanes which have completed trans-oceanic flights within the past few weeks are all propelled by Wright Whirlwind engines.

Each of the eight engines on the four planes is equipped with these important parts, made of Bethlehem Alloy Steel Drop Forgings—

- 1 Master Connecting Rod
- 8 Articulated Connecting Rods
- 1 Inlet and Exhaust Cam
- 9 Inlet Valve Rocker Arms
- 9 Exhaust Valve Rocker Arms

It is very gratifying to us to have been able to contribute so definitely to the success of these pioneer expeditions.



BETHLEHEM STEEL COMPANY  
General Offices: BETHLEHEM, PA.

DISTRICT OFFICES:

New York      Boston      Philadelphia      Baltimore      Washington      Atlanta      Pittsburgh  
Buffalo      Cleveland      Detroit      Cincinnati      Chicago      St. Louis      San Francisco  
Los Angeles      Seattle      Portland

Bethlehem Steel Export Corporation, 25 Broadway, New York City  
Sole Exporter of Our Commercial Products



GOLD MEDALS  
awarded Bethlehem at the  
recent Sesqui-Centennial  
Exposition, Philadelphia,  
in recognition of the  
high quality of both Beth-  
lehem Alloy Steels and  
Drop Forgings.

# BETHLEHEM

**A**N outdoor truck show featured the annual outing of the Pennsylvania Motor Truck Association held in Philadelphia last month which was largely attended by both dealer and operator members of the organization. A baseball game between truck owners and dealers was strongly contested, as were other athletic events. Prizes, which were given by members, were presented during the annual dinner in the evening.

**H. C. Barron** has been transferred from the New York district for Dodge Brothers to the northwest in charge of that district with headquarters in Seattle.

By declaring a dividend of 80 cents a share a year payable July 30, Continental Motors Corp. will have paid to stockholders in 1927 a total of \$1,056,507.

**A**CCORDING to a tabulation of world census returns compiled by the U. S. Department of Commerce the total truck registration for the world as of Jan. 1, 1927, is 3,936,965; bus registrations total 194,374. The United States leads with 2,764,222 trucks and 80,000 buses; France follows with 280,000 trucks and 26,000 buses; United Kingdom, Germany, Canada and Australia then follow in the order named.

Two new and larger branches have been established in Detroit and San Francisco by the Electric Storage Battery Co. The Detroit branch has moved from 5740 Cass Ave. to 8051 West Chicago Blvd. H. G. Carron is manager of this branch. The San Francisco branch is located at 6150 Third St. The manager is G. R. Murphy.

**N**EGOTIATIONS are practically completed whereby the Gotfredson Corp., Ltd., of Canada, will absorb the Wayne Body Corp. of which the Gotfredson Truck Corp. is a subsidiary. By the plan, the Canadian company will acquire all the stock of the American company and will also purchase the Wayne Body Corporation's factory at Cleveland. Sale of the Wayne's main body plant at Wayne, Mich., to the three Graham brothers recently paved the way for the reorganization of the Gotfredson interests.

**Lee M. Clegg** has been promoted to general sales manager of both the original and replacement divisions of the Cleveland and Detroit plants of Thompson Products, Inc. L. J. Scott will be sales manager at Detroit and Burke Patterson sales promotion manager at Cleveland.

**Thomas P. Henry** was reelected to the presidency of the American Automobile Association for the fifth consecutive time at the final session of the annual meeting of the organization held at Philadelphia in June.

**W**EAKNESSES in the rubber market late in June brought the prices on the Rubber Exchange down to 35 cents. Rumors to the effect that the American pool of rubber producers was liquidating had been one of the causes of the heavy selling. It is announced, however, that the pool had been advanced eight months from August 1.



Section of the Pennsylvania Motor Truck Association's outdoor truck exhibit

According to Chilton Class Journal Company's latest revised trade list, 22,920 dealers handle both passenger cars and trucks and 1724 dealers sell trucks exclusively.

**A** STUDY is being made of the points at which automotive equipment for the various makes of trucks can be obtained with the object in view of insuring the availability and elimination of delays in the delivery of parts in all sections of the country was a statement made by L. A. Safford, president, McQuay-Norris Mfg. Co. at the Automotive Equipment Association convention in Portland, Ore.

**C. G. Rowan**, manager of the Kansas City Branch of the Diamond T Motor Car Co., has won first place in a sales contest with the Pittsburgh, Pa., and St. Louis branches. The Kansas City branch reported 12 sales during a special 18-day contest.

**A** TOTAL of 5730 Graham Brothers units shipped to Dodge Brothers dealers in June exceeded the record in May and brought the six months record to 29,677 trucks and commercial cars.

**Frederick J. Haynes**, chairman of Dodge Brothers, Inc., has accepted the presidency of the Detroit Board of Commerce.

## N. Carolina School Buses Travel 51,869 Miles

**N**ORTH CAROLINA leads all states of the Union with a total school-bus mileage of 51,869 miles, according to the N. C. department of public instruction. New York is second with a mileage of 20,000. The announcement stated that 80,000 school children were transported daily in North Carolina, at a total cost for the school year of \$1,302,720.

The school systems of the nation spent \$23,000,000 during the recently closed school year in the transportation of 872,745 school children in 32,595 buses over 327,243 routes, the announcement further stated.

**A** N income tax ruling that may facilitate new truck sales on a trade-in basis has just been made by the Treasury Department, according to Seidman & Seidman, certified public accountants. Under this ruling no profit need be reported when a truck or passenger car used for business purposes is traded in for a new one, even though the trade-in allowance of the old vehicle is more than its cost less depreciation.

**A. G. Partridge**, formerly vice-president in charge of sales of Firestone Tire & Rubber Co., has been appointed manager of the western division of Good-year Tire & Rubber Co., succeeding R. S. Wilson, who has been appointed advertising manager. Mr. Wilson succeeds L. L. King, resigned.

**B**USES cannot operate without a franchise on the streets of Louisville, Ky., was the decision of the Jefferson Circuit Court and affirmation of the Court of Appeals. Contending that it paid license and city taxes the People's Transit Company sought to operate buses on the main street of Louisville. The Louisville Railway fought the application on the basis that it was unconstitutional to operate without a franchise. The decision only affects intra-city operation.

**A. W. Scarratt** has been appointed chief engineer of the motor truck and coach division of the International Harvester Co. Mr. Scarratt resigned as chief engineer of the Hyatt Bearing Co. He was also chief engineer of the Minneapolis Steel & Machinery Co.

**H. C. Russel** has accepted a position with the Indiana Truck Corp., Marion, Ind., as Ohio district sales manager, succeeding M. E. Brackett, resigned. Mr. Russel has a wide experience in the truck industry covering a period of many years.

**T**HE recent action of the Detroit Automobile Dealers Association to ban Sunday sales of new cars and trucks, it is believed, will start a national movement for the abolition of seven-day-a-week business in retail automotive merchandising. Members, however, decided to keep the used vehicles and service departments open.



## ASK HIS WIFE . . . SHE KNOWS

JOE'S "little woman" will tell you he's got a good job. She'll tell you that Joe comes home smiling and serene—ready for a romp with the kids, or a "garden party" with a heavy hoe. And if you'd ask Joe about it he'd tell you the Ross Cam and Lever Steering Gear makes his bus handle so easily and safely that he doesn't get the nerve strain and fatigue that leave so many drivers "all in" at night . . . The men who man Ross-equipped buses have fewer accidents, more courtesy for patrons and stick to their jobs longer. Naturally they make more money and good-will for the boss. Let us tell you about Ross.

ROSS GEAR AND TOOL COMPANY . . . Lafayette, Indiana

Member Motor Truck Industries, Inc., of America

**ROSS**  
**CAM and LEVER STEERING GEARS**



EASIER STEERING   LESS ROAD SHOCK



2 Trucks } \$649  
1 Year }

Average load 8 tons, on truck and trailer. Oil field service, as tough as they make it. \$6.49 total actual cost of all replacements for a whole year, on both Republic outfits owned by George Uhl & Sons, Eureka, Kansas.

The Republic 3-ton truck Model 25 WB, has become the oil field favorite on the strength of such everyday showings.

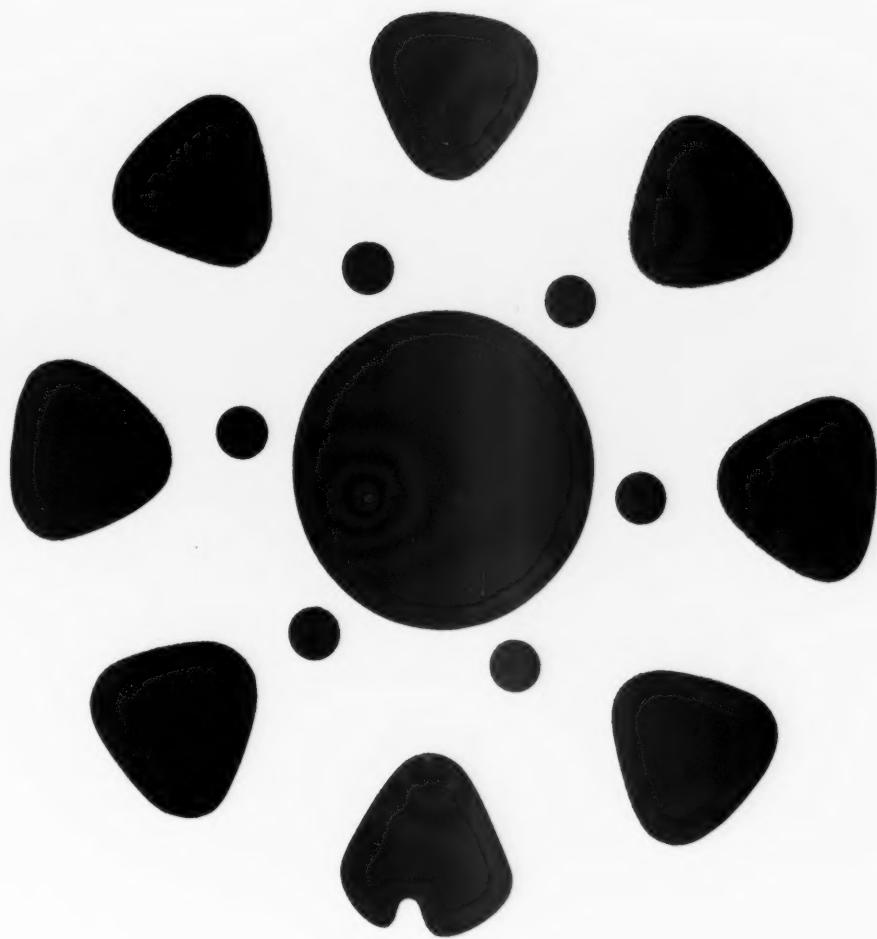
Powerful beyond any demands of merciless, roadless oil field transportation, Republics at the same time assure matchless operating economy, smoothness, speed and maneuverability. The first Republic in a fleet is usually the beginning of an all-Republic fleet. That's the result of performance, first cost, and the many extra years over which the investment spreads!

REPUBLIC MOTOR TRUCK CO., INC., Alma, Michigan

—and a nation-wide organization of Branches and Distributors to enable every Republic to deliver ALL that is built into it.



**REPUBLIC** *Yellow Chassis* **TRUCKS**



The Strongest Wheels  
ever built for  
Buses and Trucks



Spoksteel by

# The Strongest Wheels ever built for Buses and Trucks

## A Product of the World's Largest Wheel Manufacturers

### Demountable at the Hub—Interchangeable on Hubs for Dual Steel Wheels

The Spoksteel wheel combines the super-strength of a one-piece forged steel wheel member with the convenience and other recognized advantages of spoke construction. No previous type of wheel has ever approached the Spoksteel average of durability, safety, weight-saving, coolness, quiet, easy maintenance, and fine appearance. This far-reaching advance is the result of years of development by Motor Wheel, world's largest wheel makers.

For the first time, highest grade material is used in a steel wheel. Strength is multiplied. Every form of stress is accurately distributed.

The mounting is as much better as the wheel itself. Larger studs are possible; they take no radial stress at all, and at least 50% less torque. Hence Spoksteel equipment assures the highest possible resistance to shock, looseness, and permanent deflection.

The inherent advantages of Spoksteel design and construction are fully realized in service, because these wheels must mount perfectly—there is no other way. All studs and nuts are right-hand; in

dual mounting the inner wheels stay in place independently; and the final locking is positive.

Reducing depreciation, maintenance and labor costs, Spoksteel wheels also produce many indirect economies. Tires are protected by the excellent radiation properties of Spoksteel wheels. Proper inflation is encouraged because valves are accessible. Brake wear is less and adjustments are fewer because Spoksteel wheels can be kept clean on the inner side.

Wheel noises cannot develop in Spoksteel wheels, and chassis sounds are not magnified. Spoksteel silence and good looks are factors in attracting and holding bus business. Spoksteel design and construction assure lowest wheel and tire costs in handling the business.

It is another of the notable developments which are responsible for the clear leadership of Motor Wheel. A test set of Spoksteel wheels—readily applied to standard hubs—will reveal new possibilities for improving production and operation of buses and trucks of every type.

MOTOR WHEEL CORPORATION, LANSING, MICHIGAN

# Motor Wheel

# Strongest

## Easiest Mounting, Inflation, Cleaning and Care

### High Carbon Forged Steel

The practical application of this far better wheel material was made possible only by Motor Wheel experience and facilities. Spoksteel wheels are far stronger without excess weight—important in reducing tonnage—and vital in relieving tires.

### Cool Running

The spoked design, character of material, rim application, and mounting of Spoksteel wheels all tend to improve radiation. Impartial competitive tests have recorded the ability of Spoksteel wheels to keep tires many degrees cooler—much further below critical temperatures.

### Perfect Mounting

Piloted to hubs, Spoksteel wheels assure best load distribution over greatest possible area. The studs used greatly exceed standard strength, carry no radial load, and only a fraction of the torque. Broken studs, chewed-up holes and cracked wheels become a thing of the past.

### Positive Locking

The Spoksteel locking flange is a development of the pioneer Motor Wheel design which has been one of the chief factors in the general success of steel wheels. Complication and delicate parts are eliminated. Incorrect application is quite impossible. Wheel changes are facilitated because spoke-type wheels are always more easily handled. And in dual service the inner Spoksteel wheel stays in place positively while the second wheel is applied. Both wheels lock with one operation.

### Silence, Cleanliness, Convenience

Spoksteel wheels are permanently silent and they do not "cage" or magnify other chassis sounds. Dirt is not stored up and dumped into the brakes. Tire inflation is easy and quick. In emergencies, wheel repairs can be properly made without special costly machinery or factory facilities.

### Single and Dual

The full advantages of pneumatic tires are now available for every operator of buses or trucks. An experimental set of Spoksteel wheels—single and dual—will set up new figures for low-cost and high-mileage.



Motor Wheel  
PRODUCTS

MOTOR WHEEL CORPORATION  
L A N S I N G , M I C H I G A N



Key of abbreviations, page 50

Trade Name and Model	General		Engine		Electrical System		Clutch	Gearset	Rear Axle	Gear Ratio	Front Axle Make and Model	Brakes, Location	Gear Ratio	
	Front (inches)	Rear (inches)	Make and Model	Number of Cylinders	Fuel System	Generator and Starter (Make)								Chassis Weight (lbs.)
<b>1 Ton—Cont'd</b>														
Larabee A3	1350	133	P 305	P 305	Con 11U									
Le Moon H-10	140	130	P 305	P 305	Con 12C									
Laudinghaus	150	132	P 305	P 305	Wau V									
Menominee	160	132	P 305	P 305	Wau SU									
Nash 2018	156	130	P 34x5	P 34x5	Own 4									
Parker Chariot	170	140	P 335	P 335	Wau SU									
Sandow G	120	120	S 335	S 335	Her OX									
Sandow G.A.	130	120	S 32x6	S 32x6	Her OX									
Schaeft	132	120	P 305	P 305	Wau SU									
Services 251H	146	126	P 32x6	P 32x6	Bud WTU									
Star Fleetwood	160	128	P 305	P 305	Con									
Stewart Budd	965	128	P 305	P 305	Con									
United 16	120	120	P 32x4½	P 32x4½	Wau X									
United 18G/6	120	120	P 32x4½	P 32x4½	Cont 20U									
U. S. U.	180	138	P 34x5	P 34x5	Bud WTU									
Wachauhut S.	150	152	S 34x5	S 34x5	Con BR									
Yellow Cab T1	1460	130	S 33x5	S 33x5	Con V4									
Yellow Cab T1	1660	160	S 33x5	S 33x5	Con V4									
Yellow Knight T2	1065	124	P 305	P 32x6	Yell V									
<b>1 1/4 Ton</b>														
Aeme 24	136		P 305	P 305	Con S4									
Biederman	154		S 34x5	S 34x5	Con 8R									
Clinton 20B	155		P 305	P 305	Wau V									
Clydesdale 10A	154		P 34x5	P 34x5	Con S4									
Gramm 23N	153		P 305	P 305	Lye CT									
Gramm 263 N	138		P 305	P 305	Con SR									
Gramm-Bernstein 10.	129		P 305	P 305	Lye CT									
Guilder B.	132		P 305	P 305	Bud WTU									
Guilder B. 6.	132		P 305	P 305	Con S4									
Hahn B.	132		P 305	P 305	Her OX									
Int. Harvester S-24	130		P 32x4½	P 32x4½	Lye CT									
Int. Harvester S-26	130		P 32x4½	P 32x4½	Lye 4SG									
Maecon 36	140		P 305	P 305	Bud HIS									
Master 11.	132		P 305	P 305	Bud WTU									
Noble 124.	143		P 305	P 305	Bud WTU									
Reo F.	1060	130	P 305	P 305	Con S4									
Reo F.	1240	130	P 33x5	P 33x5	Own T									
Republic 75.	124		P 305	P 305	Lye CT									
Ruggles 18	134		P 305	P 305	Lye SG									
Ruggles 18.	134		P 305	P 305	Bud HIS									
Saden Penncemaker 24.	144		S 305	S 305	Con S4									
Saden Penncemaker 26.	144		S 305	S 305	Con S4									
Stewart 16X.	125	130	P 305	P 305	Lye CT									
Stewart 16X.	1370	130	P 305	P 305	Own T									
Stoughton C.	131		P 34x5	P 34x5	Own 1½									
Armedler 30.	148		P 305	P 305	Her OX									
Armedler 30-B	150		P 305	P 305	Con 11U									
Armedler 30-B-A	153		P 305	P 305	Her OX									
Armedler 30-B-B	150		P 305	P 305	Bud WTU									
Armedler 30-B-C	150		P 305	P 305	Bud WTU									
Armedler 30-B-D	150		P 305	P 305	Bud WTU									
Armedler 30-B-E	150		P 305	P 305	Bud WTU									
Armedler 30-B-F	150		P 305	P 305	Bud WTU									
Armedler 30-B-G	150		P 305	P 305	Bud WTU									
Armedler 30-B-H	150		P 305	P 305	Bud WTU									
Armedler 30-B-I	150		P 305	P 305	Bud WTU									
Armedler 30-B-J	150		P 305	P 305	Bud WTU									
Armedler 30-B-K	150		P 305	P 305	Bud WTU									
Armedler 30-B-L	150		P 305	P 305	Bud WTU									
Armedler 30-B-M	150		P 305	P 305	Bud WTU									
Armedler 30-B-N	150		P 305	P 305	Bud WTU									
Armedler 30-B-O	150		P 305	P 305	Bud WTU									
Armedler 30-B-P	150		P 305	P 305	Bud WTU									
Armedler 30-B-Q	150		P 305	P 305	Bud WTU									
Armedler 30-B-R	150		P 305	P 305	Bud WTU									
Armedler 30-B-S	150		P 305	P 305	Bud WTU									
Armedler 30-B-T	150		P 305	P 305	Bud WTU									
Armedler 30-B-U	150		P 305	P 305	Bud WTU									
Armedler 30-B-V	150		P 305	P 305	Bud WTU									
Armedler 30-B-W	150		P 305	P 305	Bud WTU									
Armedler 30-B-X	150		P 305	P 305	Bud WTU									
Armedler 30-B-Y	150		P 305	P 305	Bud WTU									
Armedler 30-B-Z	150		P 305	P 305	Bud WTU									
Armedler 30-B-A	150		P 305	P 305	Bud WTU									
Armedler 30-B-B	150		P 305	P 305	Bud WTU									
Armedler 30-B-C	150		P 305	P 305	Bud WTU									
Armedler 30-B-D	150		P 305	P 305	Bud WTU									
Armedler 30-B-E	150		P 305	P 305	Bud WTU									
Armedler 30-B-F	150		P 305	P 305	Bud WTU									
Armedler 30-B-G	150		P 305	P 305	Bud WTU									
Armedler 30-B-H	150		P 305	P 305	Bud WTU									
Armedler 30-B-I	150		P 305	P 305	Bud WTU									
Armedler 30-B-J	150		P 305	P 305	Bud WTU									
Armedler 30-B-K	150		P 305	P 305	Bud WTU									
Armedler 30-B-L	150		P 305	P 305	Bud WTU									
Armedler 30-B-M	150		P 305	P 305	Bud WTU									
Armedler 30-B-N	150		P 305	P 305	Bud WTU									
Armedler 30-B-O	150		P 305	P 305	Bud WTU									
Armedler 30-B-P	150		P 305	P 305	Bud WTU									
Armedler 30-B-Q	150		P 305	P 305	Bud WTU									
Armedler 30-B-R	150		P 305	P 305	Bud WTU									
Armedler 30-B-S	150		P 305	P 305	Bud WTU									
Armedler 30-B-T	150		P 305	P 305	Bud WTU									
Armedler 30-B-U	150		P 305	P 305	Bud WTU									
Armedler 30-B-V	150		P 305	P 305	Bud WTU									
Armedler 30-B-W	150		P 305	P 305	Bud WTU									
Armedler 30-B-X	150		P 305	P 305	Bud WTU									
Armedler 30-B-Y	150		P 305	P 305	Bud WTU									
Armedler 30-B-Z	150		P 305	P 305	Bud WTU									
Armedler 30-B-A	150		P 305	P 305	Bud WTU									
Armedler 30-B-B	150		P 305	P 305	Bud WTU									
Armedler 30-B-C	150		P 305	P 305	Bud WTU									
Armedler 30-B-D	150		P 305	P 305	Bud WTU									
Armedler 30-B-E	150		P 305	P 305	Bud WTU									
Armedler 30-B-F	150		P 305	P 305	Bud WTU									
Armedler 30-B-G	150		P 305	P 305	Bud WTU									
Armedler 30-B-H	150		P 305	P 305	Bud WTU									
Armedler 30-B-I	150		P 305	P 305	Bud WTU									
Armedler 30-B-J	150		P 305	P 305	Bud WTU									
Armedler 30-B-K	150		P 305	P 305	Bud WTU									



Key of abbreviations, page 50

Trade Name and Model	General		Engine		Electrical System		Clutch		Gearset		Rear Axis		Gear Ratios		Front Axle Make and Model		Weights (Metric)													
	Tire Size	Wheel Base (inches)	Model	Model	Fuel System	Carburetor (Metric)	Electric Motor (Metric)	Generator (Metric)	Clutch	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake	Brake
1½ Ton-(Cont'd)																														
Taylor B.....	1800	140	S 34x4	WU	Bud	WU																								
United 30.....	148		P 30x6	Her OX	Bud	WU																								
United 30C6.....	148		P 30x6	Con S10	PC	Non	G&O	U																						
United 30C6.....	148		P 30x6	Con S10	PC	Non	G&O	U																						
U.S. L.....	240	140	P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her OX	Bud	WU																								
U.S. L.....	148		P 34x6	Her																										

“Ver support only

E:2 1 on

Key of abbreviations, page 50

Trade Name and Model	General		Engine		Clutch	Gearset	Rear Axle		Gear Ratios		Front Axle Make and Model	Front Axle Location	Brakes, Location	Brakes, Location	Brakes, Location	Brakes, Location	
	Tire Size	Rear (Inches)	Front (Inches)	Rear (Inches)	Front (Inches)		Rear Axle Make and Model	Rear Axle Location	Front Axle Make and Model	Front Axle Location							
<b>2½ Ton—Cont'd</b>																	
Biederman...	160°	8 365	S 365	S 365	S 365	Con 6B	Her OX	PC	PC	W	W	Shu	Shu	Mat	Bet	Non	4000
Chicago 25	168°	8 364	S 364	S 364	S 364	Her OX	Her OX	PC	PC	W	W	Shu	Shu	Mat	SIM	Mat	5250
Chicago 30	164°	8 365	S 365	S 365	S 365	Con 6B	Her OX	PC	PC	W	W	Shu	Shu	Mat	SIM	Mat	6150
Clinton 55-6	168°	8 364	S 364	S 364	S 364	Con K4	Con K4	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5200
Cloudsdale 8	168°	8 364	S 364	S 364	S 364	Con K4	Con K4	PC	PC	W	W	Shu	Shu	Mat	Van	Van	6300
Coleman D-40	130	8 364	S 364	S 364	S 364	Bud HS	Bud HS	PC	PC	W	W	Shu	Shu	Mat	Van	Van	6300
Corbitt 54-1	152	S 364	S 364	S 364	S 364	Con K4	Con K4	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5225
Day-Elder 1	144°	S 364	S 364	S 364	S 364	Bud KBU	Bud KBU	PC	PC	W	W	Shu	Shu	Mat	Van	Van	6700
Day-Elder 43	166	S 364	S 364	S 364	S 364	Her O	Her O	PC	PC	W	W	Shu	Shu	Mat	Van	Van	6700
Diamond T-14	161	S 364	S 364	S 364	S 364	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	6100
Diamond T-16	158	S 364	S 364	S 364	S 364	Her K	Her K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	7285
Diamond T-18	182½	S 364	S 364	S 364	S 364	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	6100
Diamond T-20	172	S 365	S 365	S 365	S 365	Wau V	Wau V	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5500
Federal U.S.	157	S 364	S 364	S 364	S 364	Con K4	Con K4	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5300
Fisher Heavy Duty	155	S 326	S 326	S 326	S 326	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	4860
Fisher Heavy Duty	155	S 365	S 365	S 365	S 365	Con 6B	Con 6B	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5150
Garford 60	3750	S 364	S 364	S 364	S 364	Bud EBU-1	Bud EBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	6650
G.M.C. K-52A	146	S 364	S 364	S 364	S 364	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5780
G.M.C. K-52B	158	S 364	S 364	S 364	S 364	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	6100
G.M.C. K-52C	191	S 364	S 364	S 364	S 364	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	6100
Goffredson 51	140°	S 364	S 364	S 364	S 364	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5500
Goffredson 56	150°	S 364	S 364	S 364	S 364	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5500
Graman 54-5N	150°	S 364	S 364	S 364	S 364	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5500
Graman 54-6N Spec	150°	S 364	S 364	S 364	S 364	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5500
Gramann-Bernstein C-6	144°	S 364	S 364	S 364	S 364	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Gramann-Bernstein C-6	150°	S 364	S 364	S 364	S 364	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Graus Premier 55-5	150°	S 326	S 326	S 326	S 326	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Graus Premier 55-6	150°	S 364	S 364	S 364	S 364	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Guilder E6	160	S 326	S 326	S 326	S 326	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hahn K. Spec	144°	S 364	S 364	S 364	S 364	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hahn K. Spec	144°	S 364	S 364	S 364	S 364	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Harvey 66	3500	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hawkeye 50	3100	Opt	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hendrickson ST	3400	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug 30	150°	S 326	S 326	S 326	S 326	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug 80	122	S 365	S 365	S 365	S 365	Bud K	Bud K	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug C 80	139°	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Indiana 615A	136	S 326	S 326	S 326	S 326	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Harvey 66	3800	210°	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hawkeye 50	3100	Opt	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hendrickson ST	3400	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug 30	150°	S 326	S 326	S 326	S 326	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug 80	122	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug C 80	139°	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Indiana 615A	136	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Harvey 66	3800	210°	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hawkeye 50	3100	Opt	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hendrickson ST	3400	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug 30	150°	S 326	S 326	S 326	S 326	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug 80	122	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug C 80	139°	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Indiana 615A	136	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Harvey 66	3800	210°	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hawkeye 50	3100	Opt	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hendrickson ST	3400	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug 30	150°	S 326	S 326	S 326	S 326	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug 80	122	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug C 80	139°	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Indiana 615A	136	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Harvey 66	3800	210°	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hawkeye 50	3100	Opt	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hendrickson ST	3400	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug 30	150°	S 326	S 326	S 326	S 326	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug 80	122	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug C 80	139°	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Indiana 615A	136	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Harvey 66	3800	210°	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hawkeye 50	3100	Opt	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hendrickson ST	3400	S 365	S 365	S 365	S 365	Bud KBU-1	Bud KBU-1	PC	PC	W	W	Shu	Shu	Mat	Van	Van	5400
Hug 30	150°	S 326	S 326	S 326	S 326	Bud KBU-1	Bud KBU-1	PC	PC								

Oakkoh M. ....	2790/146	S 30x6 <sup>1</sup>	Her OX	4-45	S 30x8 <sup>1</sup>	Her OX	4-45	Bud EBU-1	4-45x5 <sup>1</sup>	38.6	PC	Pie	Own	Van	Gdy	5276	
Parker Heavy Duty	2780/150	S 30x6 <sup>1</sup>	Her OX	4-45	S 30x8 <sup>1</sup>	Her OX	4-45	Bud EBU-1	4-45x5 <sup>1</sup>	38.6	PC	Pie	Own	Van	Gdy	5240	
Republic 60	163°	P 32x6	Lye TP	6-3x5 <sup>1</sup>	S 30x6	Her OX	4-45	Bud EBU-1	4-45x5 <sup>1</sup>	31.5	PC	Non	Own	Van	Gdy	4600	
Ruggles 42	152	S 30x4	S 30x8	Her K	4-45x5 <sup>1</sup>	S 30x6	Her K	4-45x5 <sup>1</sup>	S 30x6	25.6	PC	Non	Own	Van	Gdy	4600	
Sandow	165	S 30x5	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x6	Her K	4-45x5 <sup>1</sup>	S 30x6	28.9	PC	Non	Own	Van	Gdy	4600	
Schabot LO	160	S 30x4	S 30x10	Wau V	4-45x5 <sup>1</sup>	S 30x5	Her K	4-45x5 <sup>1</sup>	S 30x6	28.9	PC	Non	Own	Van	Gdy	4600	
Service 61	160°	S 30x4	S 30x10	Wau V	4-45x5 <sup>1</sup>	S 30x5	Her K	4-45x5 <sup>1</sup>	S 30x6	27.2	PC	Non	Own	Van	Gdy	4600	
Standard 212-32K	147°	S 30x5	S 30x12	Wau V	4-45x5 <sup>1</sup>	S 30x6	Her K	4-45x5 <sup>1</sup>	S 30x6	25.6	PC	Non	Own	Van	Gdy	5248	
Steinkoenig B.	156	S 30x4	S 30x10	Wau CU	4-45x5 <sup>1</sup>	S 30x5	Her K	4-45x5 <sup>1</sup>	S 30x6	30.6	PC	Non	Own	Van	Gdy	6800	
Steinkoenig C.	156	S 30x5	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x6	Her K	4-45x5 <sup>1</sup>	S 30x6	26.6	PC	Non	Own	Van	Gdy	6800	
Sterling DW-12	142	S 30x4	S 30x10	Wau V	4-45x5 <sup>1</sup>	S 30x5	Her K	4-45x5 <sup>1</sup>	S 30x6	28.9	PC	Non	Own	Van	Gdy	6100	
Stewart 19	3200	165	S 30x4	S 30x12	Wau V	4-45x5 <sup>1</sup>	S 30x5	Her K	4-45x5 <sup>1</sup>	S 30x6	28.9	PC	Non	Own	Van	Gdy	6126
Twin City BW	2975	163 <sup>1</sup> 2	S 30x5 <sup>1</sup>	S 30x10 <sup>1</sup>	Own TW	4-45x5 <sup>1</sup>	S 30x6	Her OX	4-45x5 <sup>1</sup>	S 30x6	25.6	PC	Non	Own	Van	Gdy	4600
United 50C6	153	S 30x4	S 30x8	Con 6B	6-3x4 <sup>1</sup>	S 30x5	Con 6B	6-3x4 <sup>1</sup>	S 30x6	33.7	PC	Non	Own	Van	Gdy	5000	
Valley Dispatch.	160	P 32x6	DP3226	Her OX	4-45	S 30x4	Con 6B	4-45	S 30x5	25.6	PC	Non	Own	Van	Gdy	4940	
Victor 60	2145	163	S 30x4	S 30x10	Her OX	4-45x5 <sup>1</sup>	S 30x5	Con 6B	4-45x5 <sup>1</sup>	S 30x6	30.6	PC	Non	Own	Van	Gdy	5800
Wachusett LA France 2C	170	S 30x4	S 30x10	Con LA	4-45x5 <sup>1</sup>	S 30x5	Con LA	4-45x5 <sup>1</sup>	S 30x6	32.4	PC	Non	Own	Van	Gdy	5800	
White 51A	170°	S 30x5	S 30x12	Wau V	4-45x5 <sup>1</sup>	S 30x6	Con LA	4-45x5 <sup>1</sup>	S 30x6	24.1	PC	Non	Own	Van	Gdy	6256	
Witt-Will S.	3100	146	S 30x4	S 30x8	Con K4	4-45x5 <sup>1</sup>	S 30x5	Con K4	4-45x5 <sup>1</sup>	S 30x6	28.9	PC	Non	Own	Van	Gdy	5800
Woods 51W4	160	S 30x5	S 30x10	Bud KBU-1	4-45x5 <sup>1</sup>	S 30x6	Con K4	4-45x5 <sup>1</sup>	S 30x6	27.2	PC	Non	Own	Van	Gdy	5800	
Arnoldow 60	162°	S 30x5 <sup>1</sup>	S 30x6 <sup>1</sup>	Bud EBU-1	4-45x5 <sup>1</sup>	S 30x6 <sup>1</sup>	Bud EBU-1	4-45x5 <sup>1</sup>	S 30x6 <sup>1</sup>	38.9	PC	Non	Own	Van	Gdy	5900	
Arnoldow 60-6	158°	S 30x5 <sup>1</sup>	S 30x6 <sup>1</sup>	Bud EBU-1	4-45x5 <sup>1</sup>	S 30x6 <sup>1</sup>	Bud EBU-1	4-45x5 <sup>1</sup>	S 30x6 <sup>1</sup>	38.9	PC	Non	Own	Van	Gdy	6100	
Autocar 114	114	S 30x5	S 30x10	Own Y	4-45x5 <sup>1</sup>	S 30x6	Own Y	4-45x5 <sup>1</sup>	S 30x6	25.7	PC	Non	Own	Van	Gdy	6000	
Bridgerton R.	160	S 30x4	S 30x8	Bud ETU	4-45x5 <sup>1</sup>	S 30x5	Con K4	4-45x5 <sup>1</sup>	S 30x6	27.2	PC	Non	Own	Van	Gdy	5855	
Brockway K16	153	S 30x4	S 30x8	Con K4	4-45x5 <sup>1</sup>	S 30x5	Con K4	4-45x5 <sup>1</sup>	S 30x6	27.2	PC	Non	Own	Van	Gdy	5900	
Brockway KR	154 <sup>1</sup> 6	S 30x4	S 30x8	Con K4	4-45x5 <sup>1</sup>	S 30x5	Con K4	4-45x5 <sup>1</sup>	S 30x6	27.2	PC	Non	Own	Van	Gdy	6250	
Brockway KHB	163	S 30x5	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x6	Con LA	4-45x5 <sup>1</sup>	S 30x6	32.4	PC	Non	Own	Van	Gdy	6350	
Brookdale 30-7	164°	S 30x4	S 30x10	Wau CU	4-45x5 <sup>1</sup>	S 30x5	Con LA	4-45x5 <sup>1</sup>	S 30x6	33.7	PC	Non	Own	Van	Gdy	5925	
Clinton 65°	164	S 30x4	S 30x8	Con 6B	6-3x4 <sup>1</sup>	S 30x5	Con 6B	6-3x4 <sup>1</sup>	S 30x6	32.4	PC	Non	Own	Van	Gdy	5850	
Clydesdale 6X	163°	S 30x4	S 30x8	Con K4	4-45x5 <sup>1</sup>	S 30x5	Con K4	4-45x5 <sup>1</sup>	S 30x6	32.4	PC	Non	Own	Van	Gdy	5700	
Commerce Relay 28	176°	S 30x5	S 30x10	Con K4	4-45x5 <sup>1</sup>	S 30x6	Con K4	4-45x5 <sup>1</sup>	S 30x6	32.4	PC	Non	Own	Van	Gdy	6175	
Concord Relay 28	150°	S 30x4	S 30x8	Con K4	4-45x5 <sup>1</sup>	S 30x5	Con K4	4-45x5 <sup>1</sup>	S 30x6	32.4	PC	Non	Own	Van	Gdy	5800	
Corbitt R. ....	160	S 30x4	S 30x8	Con K4	4-45x5 <sup>1</sup>	S 30x5	Con K4	4-45x5 <sup>1</sup>	S 30x6	32.4	PC	Non	Own	Van	Gdy	6160	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°	S 30x6	S 30x12	Wau CU	4-45x5 <sup>1</sup>	S 30x7	Wau CU	4-45x5 <sup>1</sup>	S 30x7	30.9	PC	Non	Own	Van	Gdy	6300	
Day Elder J. ....	156°																

Key of abbreviations, page 50



Key of abbreviations, page 50

Gasoline Tractor-Trucks		
Acme 24	114	P 30x5
		5

# Motor Bus Chassis Specifications

**For Other Chassis Which Are Recommended and Adaptable for Bus Use, See Model in the "COMMERCIAL CAR SPECIFICATIONS"**

